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                           Sequence Patent No.
     Sequence
                                                                           Sequence
                                                                                                         Sequence
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MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MD STORAGE
                                                                      US-08-818-562-2
US-09-628-445-2
US-09-628-88-2
US-07-932-915-2
US-09-116-594-2
US-08-875-811-59
US-08-875-811-61
US-08-875-811-61
US-08-806-1218-3
US-09-443-061-3
US-09-570-921-63
US-09-570-921-63
US-09-570-921-63
US-08-383-621-5
US-08-759-628-8
US-09-522-217-111
5314995-7
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REGISTRATION NUMBER: 31.287
REFERENCE/DOCKET NUMBER: HOE 92/F 384
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 231-4079
TELEPHONE: (908) 231-255
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: WINDOWS 3.1
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/160,376A
FILING DATE: December 1, 1993
CLASSIFICATION: 530
PRIOR APPLICATION 530
PRIOR APPLICATION OF 530
FILING DATE: December 2, 1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Application US/08160376A; Patent No. 5473049; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Obermeier, Ranier
APPLICANT: Gerl, Martin
APPLICANT: Ludwig, Jurgen
APPLICANT: Sabel, Walter
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TYPE: Amino Acid (AA)
TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 96.2
Best Local Similarity 96.9
Matches 31; Conservative
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147
147
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1147
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Sequence 5, Appli Sequence 8, Appli Patent No. 5496924 Sequence 13, Appl Sequence 13, Appl Sequence 13, Appl
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Sequence 15, Appl
Sequence 1, Appl
Sequence 3, Appl
Sequence 89, Appl
Sequence 19, Appl
Sequence 2, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 13, Appli
Sequence 13, Appli
Sequence 2, Appli
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                        (without alignments) 47.529 Million cell updates/sec
                                                                                                                                                                             February 20, 2003, 10:04:02; Search time 19.8095 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Issued_Patents_AA:*
.: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
?: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
.: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
!: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
?: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
.: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                        GenCore version 5.1.3 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                  1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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US-08-389-487-8
US-08-389-487-8
US-08-480-351-13
US-08-480-370-13
US-08-480-370-13
US-08-480-370-13
US-08-38-19-19
US-08-38-19-89
US-08-38-19-89
US-08-225-224-3
US-08-24-3938-1
US-08-24-3938-1
US-08-24-3938-1
US-08-24-3938-3
US-08-24-3938-3
US-08-24-3938-3
US-08-24-3938-3
US-08-24-3938-3
US-08-24-3938-3
US-08-24-3938-3
US-08-173-13
US-08
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                            - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Maximum DB seq length: 200000000
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158
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Match Length DB
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Perfect score:
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                                                                                                                                                                                                                                96.2%; Score 152; DB 6; Length 134; 96.9%; Pred. No. 6.2e-16; Live 0; Mismatches 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 13, Application US/08127351
Patent No. 5449761
GENERAL INFORMATION:
APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VENNON L.
APPLICANT: MOOD, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE;
TITLE OF INVENTION: CONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: P.C.
1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
FILING DATE: US/08/127,351
FILING DATE: 28-SEP-1993
CLASSIFICATION: 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER ADDRESSEE: NEUSTADT, ADDRESSEE: P.C.
                                                                                                                                                                                                                                                                                                                                                                  1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                    1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
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NAME: Villacorta, Gilberto M.
REGISTRATION NUMBER: 34,038
REEISENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703),413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IB PR Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
   FILING DATE: 25-NOV-1986
APPLICATION NUMBER: 943,804
FILING DATE: 19-DEC-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (703) 413-2300
TELEFAX: (703) 413-220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 13:
                                                                                                                                                                                                                                                                 Best Local Similarity 96.9
Matches 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 50 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-127-351-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: Virginia COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Arlington
                                                                                                                                  LENGTH: 134
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US-08-480-367B-13
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US-08-127-351-13
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                                                                                                 SEQ ID NO:55:
                                                                                                                                                                                                                                   Query Match
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                                                                                                                                                                                 GENERAL INFORMATION:

APPLICAMT: Obermeier, Rainer
APPLICAMT: Obermeier, Rainer
APPLICAMT: Carl, Martin
APPLICAMT: Ludwig, Jurgen
APPLICANT: Sabel, Walter
TITLE OF INVENTION: Process for Obtaining Insulin Having
TITLE OF INVENTION: Process for Obtaining English
TITLE OF INVENTION: Correctly Linked Cystine Bridges
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
STREET: 1300 I Street, N.W.
CITY: Washington
COUNTRY: United States of 2
ZIP: ACCOUNTRY: United States of 3
ZIP: ACCOUNTRY: UNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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PATELICANT: HABERMANN, PAUL; WENGENMAYER, FRIEDRICH

TITLE OF INVENTION: FUSION PROTEIN COMPRISING AN

INTEREDENTING: FRACHENT BALLAST PORTION

NUMBER OF SEQUENCES: 56

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/194,545

FILING DATE: 28-DEC-1992

PRIOR APPLICATION NUMBER: 377,313

FILING DATE: 10-JUL-1989

HILING DATE: 10-JUL-1989

APPLICATION NUMBER: 934,910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/389,487
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02481.1424-00000
1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                 1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
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ATTORNEY/AGENT INFORMATION:
NAME: Elnaudi, Carol P.
REGISTATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 0248:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
                                                                                                                                                                                                                            Sequence 8, Application US/08389487
Patent No. 5663291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96 amino acids
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Best Local Similarity 96.99
Matches 31; Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: peptide US-08-389-487-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear
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STRANDEDNESS: si
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APPLICANT: BELLIARA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: WOOD, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: CONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER &
ADDRESSEE: NEUSTADT,
ADDRESSEE: PLOSTADT,
ADDRESSEE: STEEFT: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 50;
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MADIMENTED 12202
COMPUTER: IBM PC compatible
SCHWARE: Patentin Release #1.0, Version #1.25
SCHWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,221A
FILING DATE: 0'-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: US 08/127,351
FILING DATE: 28-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAMME: V111acorta, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELEPHONE: (703) 413-320
TELEPHONE: (703) 413-320
TELERA: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHRARACTERISTICS:
LEWRYTH: 50 GALIA acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 147; DB 1;
Pred. No. 1.1e-15;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
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PRIOR APPLICATION NUMBER: US 08/127,351
FILIND DATE: 28-5EP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
CMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .; Sequence 13, Application US/08480370
; Patent No. 5609847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93.0%;
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Best Local Similarity 96.87
Matches 30, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-08-487-221A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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                                                                    APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANNEL J.
APPLICANT: COUGHLIN, DANNEL J.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: MODO, RICHARD
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: CONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
ADDRESSEE: LOWE, PRICE, LEBLANC & BECKER
STREET: 99 Canal Center Plaza, Suite 300
CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 147; DB 1; Length 50;
Pred. No. 1.1e-15;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: ALVAREZ, VERNON L.
APPLICANT: MOOD, RICHARD
TITLE OF INVENTION: CONSTRUCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READBALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC CompAIAS-E
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,367B
FILING DATE: 07-06-95
CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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; Sequence 13, Application US/08487221A
; Patent No. 5593656
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Villacorta, Gilberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 2654-0(
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 684-1111
TELEFAX: (703) 684-1124
    Sequence 13, Application US/08480367B
Patent No. 5578288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 93.0%;
Best Local Similarity 96.8%;
Matches 30; Conservative (
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 50 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; MOLECULE TYPE: peptide US-08-480-367B-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                   STATE: Virginia COUNTRY: U.S.A. ZIP: 22314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: Virginia COUNTRY: U.S.A. ZIP: 22202
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3 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 33
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Patent No. 6294353
GENERAL INFORMATION:
APPLICANT: Back, Peter
APPLICANT: Lupas, Andrei
TITLE OF INVENTION: TARGETED HETERO-ASSOCIATION OF
TITLE OF INVENTION: RECOMBINANT PROTEINS TO MULTI-FUNCTIONAL COMPLEXES
NUMBER OF SEQUENCES: 36
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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                                                                                                                                                                                                                                   Length 50;
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                                                                                                                                                                                                                                                                        Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SISTEM: PC-DOS/MS-DOS
OPERATING SISTEM: PC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/817,787
FILING DATE: 23-SEP-1997
CLASSIFICATION DATA:
APPLICATION DATE: PRIOR #24
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/EP95/04117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93.0%; Score 147; DB 4; I 96.8%; Pred. No. 2.2e-15; Live 0; Mismatches 1;
                                                                                                                                                                                                                              93.0%; Score 147; DB 1;
96.8%; Pred. No. 1.1e-15;
tive 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                  2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 APTSSSTKKTQLQLEHLLLKLOMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 1251 Avenue of the Americas
CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION UNDABR: EP 94 11 6558.1
FILING DATE: 20-0CT-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Haley Jr., James F.
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: MORPHO/1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-596-9000
TELEFAX: 212-596-9000
INFORMATION FOR SEQ ID NO: 15:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
                                                           13:
(703) 413-3000
               TELEFAX: (703) 413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: FISH & NEAVE
                                                                                                LENGTH: 50 amino acids
TYPE: amino acid
TYPE: amino acid
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-480-370-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 88 amino acids
                                                                                                                                                                                                                            Query Match 93.0°
Best Local Similarity 96.8°
Matches 30; Conservative
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Best Local Similarity 96.8
Matches 30; Conservative
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ZIP: 10020
COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
TELEPHONE:
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APPLICANT: Ralph, Peter
APPLICANT: Martin, George
APPLICANT: Martin, George
APPLICANT: Dattek, Michael
APPLICANT: Lartick, James W.
TITLE OF INVENTION: Multifunctional M-CSF Proteins and Genes Encoding
TITLE OF INVENTION: Therefor
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
Sequence 1, Application US/07800366

Patent No. 5250296

GENERAL INFORMATION:
APPLICATION COTSU, Koichiro
TITLE OF INVENTION: IMMUNOSTIMULANT AGENT CONTAINING
TITLE OF INVENTION: INTERLEUKIN-2 AND 5'-DEOXY-5-FLUOROURIDINE
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS &
ADDRESSEE: CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ô
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                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPPRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION DATA:
APPLICATION NUMBER: US/07/800,366
FILING DATE: 19911127
CLASSIFICATION: 424
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Pred. No. 3.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Castle, Donald R
REGISTRATION NUMBER: 24,220
REFERENCE/DOCKET NUMBER: 41417(281)
TELECHONE: (617)523-3400
TELEPHONE: (617)523-3400
TELERAX: 200291 STRE UR
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 APISSSTKKTQLQLEHLLLDLQMILNGINNY 31
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                                                                                                                                                                                                                   STREET: 130 Water Street CITY: Boston STATE: Massachusetts COUNTY: US ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93.0%;
96.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : 133 amino acids
AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: linear; MOLECULE TYPE: protein US-07-800-366-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Enveryville STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: U.S.A. ZIP: 94662-8097
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US-08-354-456A-5
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GENERAL INFORMATION:
APPLICANT: GARVIN, Robert T.
APPLICANT: MALEK, Lawrence T.
APPLICANT: MALEK, Lawrence T.
TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION
TITLE OF INVENTION: STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
TITLE OF INVENTION: PROTEINS FROM STREPTOMYCES
NUMBER OF SEQUENCES:
ADDRESSEE: Foley & Lardner
                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                                                                                                                                                                                                                                                                                                                 1; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/318,193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 147; DB 1; Le
Pred. No. 3.6e-15;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                Query Match 93.0%; Score 147; DB 1; Best Local Similarity 96.8%; Pred. No. 3.6e-15; Matches 30; Conservative 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 19,768
REFERENCE/DOCKET NUMBER: 18740/116 CACO
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)836-9300
TELEPRAX: (703)683-4109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 1800 Diagonal Road, Suite 500 CITY: Alexandria STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                              2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,314
FILING DATE:
APPLICATION NUMBER: US 07/224,568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-318-193-89
; Sequence 89, Application US/08318193
; Patent No. 5641663
                                                                                                                                                                                                 ; LOCATION: 1..133
; OTHER INFORMATION: /label- IL2
.US-08-225-224-3
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96.8%;
                                LENGTH: 133 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 899149
INFORMATION FOR SEQ ID NO: 8
SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
TYPE: amino acid
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Best Local Similarity 96.8
Matches 30; Conservative
            SEQUENCE CHARACTERISTICS
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MOLECULE TYPE: protein
US-08-318-193-89
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CLASSIFICATION: 435
                                                                                                                                                                             NAME/KEY: Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: Virginia
COUNTRY: USA
ZIP: 22313-0299
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Patent No. 563599
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: PASTAN, Ira
PAPLICANT: RESTAN, Robert J.
TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS AND
TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS AND
TITLE OF INVENTION: CIRCULARLY PERMUTED FUSION PROTEINS
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
STREET: Steuart Street Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match 93.0%; Score 147; DB 1; Length 133; Best Local Similarity 96.8%; Pred. No. 3.6e-15; Matches 30; Conservative 0; Mismatches 1; Indels
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SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/225,224
FILING DATE: 8-APR-1994
CLASSIFICATION: 530
ATTOKNEY/AGENT INFORMATION:
NAME: Weber: Ellen L.
REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 15280-193
TELEPHONE (415) 543-9600
TELEPHONE: (415) 543-5043
INFORMATION FOR SEQ ID NO: 3:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/354,456A
FILING DATE: 12-DEC-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                         750.003/32387
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                                                                                                                                                                                                           PRIOR APPLICATION 1433
PRIOR APPLICATION 10APR:
APPLICATION NUMBER: US 07/995,338
FILING DATE: 21-DEC-1992
CLASSIFTCATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MCGATTGIG 5T., Philip L.
RECISTRATION NUMBER: 31,395
REFERENCE/DOCKET NUMBER: 750.003/323
TELECHOME: (510) 601-2118
TELEPHOME: (510) 655-3542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 133 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX: n/a
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-354-456A-5
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Query Match
93.0%; Score 147; DB 1; Length 133;
Best Local Similarity 96.8%; Pred. No. 3.6e-15;
Matches 30; Conservative 0; Mismatches 1; Indels
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MEDIUM TYPE: RIOPY disk
MEDIUM TYPE: RIOPY disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCFWARE: Patentin Release #1.0, Version #1.30
CURRENY APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REFERENCE/DOCKET NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX0389
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
                                         SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/08284393B; Patent No. 5696234; GENERAL INFORMATION:
                                                                                                             FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX038
TELECOMMUNICATION INFORMATION:
TELEFAX: 415-485-9196
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
TTPE: amino acids
TTPE: amino acids
TTPE: amino acids
TTPE: amino acids
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TELEFAX: 415-496-1200
INFORMATION FOR SEQ ID NO: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                              single
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CITY: Palo Alto
STATE: California
                           OPERATING SYSTEM:
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US-08-284-393B-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching Edwin P.
REGISTRATION NUMBER: 34,090
REGISTRATION NUMBER: 34,090
TELEPHONE: 415-495-1906
TELEPHONE: 415-495-1200
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                              Sequence 1, Application US/08284393B
Patent No. 5696234
GENERAL INFORMATION:
APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: ZUTAWSKI, SANGTA M.
APPLICANT: ZUTAWSKI, GERATG
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
TITLE OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
  2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                       ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application US/08284393B Patent No. 5696234 GENERAL INFORMATION:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 133 amino acids
TYPE: amino acid
STRANDEDNESS: single
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Best Local Similarity 96.8%
Matches 30; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-284-393B-1
                                                                                                                                                                                                                                                                                                                                                                                CITY: Palo Alto
STATE: California
                                                                                                                                  US-08-284-393B-1
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Query Match
93.0%; Score 147; DB 1; Length 133;
Best Local Similarity 96.8%; Pred. No. 3.6e-15;
Matches 30; Conservative 0; Mismatches 1; Indels
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Search completed: February 20, 2003, 10:08:10 Job time: 20.8095 secs

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Perfect score:

Run on:

Sequence:

Scoring table:

Searched:

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Recombinant Interl Recombinant Interleukin Fused antibody rec Conjugate of Inter Interferon-gamma a Amino acid sequence Human interleukin-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
AAP40050
AAP50053
AAP50855
AAP61102
AAP70585
AAR05267
AAR05266
                                                                                                                       AAR50932
AAR07265
AAR07266
AAR07269
AAR07149
AAR07150
AAR07150
AAR07263
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-JUL-1998; 98US-0116594, 12-SEP-2000; 2000US-0660465.
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Mazie J;
 Synthetic
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ID ABB
    Amino acid sequenc
Human interleukin-
Human IL-2 N-termi
Human Interleukin-
Human pro-insulin
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Interleukin-2 pept
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                                                                                         February 20, 2003, 10:00:37; Search time 30.9841 Seconds (without alignments) 137.619 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                            1. SIDSZ/gcgdata/geneseq/geneseqp-embl/AA1980.DÄT:*
2. SIDSZ/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
3. SIDSZ/gcgdata/geneseqy-embl/AA1981.DAT:*
3. SIDSZ/gcgdata/geneseqy-embl/AA1981.DAT:*
3. SIDSZ/gcgdata/geneseqy-embl/AA1981.DAT:*
3. SIDSZ/gcgdata/geneseqy-embl/AA1984.DAT:*
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                                                                                                                                                                                                                                                                           908470
              GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd
                                                                                                                                               US-09-776-781-6
158
1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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                                                                                                                                                                                                                                             908470 seqs, 133250620 residues
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Maximum Match 100%
Listing first 45 summaries
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ABB79535
AAY53825
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Gapop 10.0 , Gapext 0.5
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100.0 97.5 96.8 96.2 96.2 96.2 96.2 96.2

158 154 153 153 152 152 152 152 152 152

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Result

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Length 134;

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New peptides derived from Interleukin 2 designated IP130 and IP131 are useful as therapeutic agents in the treatment of patients deficient in
                                                                                                                                                                                               terminal portion corresponding essentially to the AA sequence of interleukin-2 (IL-2) but contg. less than 100 AAs. The IL-2 sequence is coded for by 1,2 or 3 of the A-F segments of the IL-2 gene having the formula: (EcoR1)-A-PStI-B-MIUI-C-Xbal-D-SacI-E-Pvul-F-(SaII), for example, the sequence in AAN/70921. The segments are joined in any appropriate sequence and opt. connected by usual adaptors or linkers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is the protein sequence for IP131 D20K. The sequence is based on the human interleukin-2 (IL-2) peptide IP130 (see ABN84292) by the addition of a C-terminal Tyr residue, and substitution of the native Asp-20 residue by Lys. Asp-20 is located in a region of IL-2 that directly influences interaction of
                  New fusion protein contg. small interleukin 2 ballast fragments allowing control of product solubility, and corresp. genes, vectors and transformed host cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IP131; interleukin-2; human; gene; gene therapy; mutant; mutein.
                                                                                                                                                                          The inventors claim a novel fusion protein which has a C- or N-
                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 154; DB 8; Length 13
Pred. No. 4.7e-14;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "wild-type Asp substituted by Lys"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Theze J, Eckenberg R, Moreau J, Goldberg M, Rose T,
Mazie J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MAPTSSSTKKTQLQLEHLLLELQMILNGINNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Interleukin-2 peptide IP131 (D20K).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB79535 standard; Peptide; 31 AA
                                                                                                                          Disclosure; pp8-9; 22pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 18; Page -; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                               97.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-FEB-2001; 2001US-0776781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-JUL-1998; 98US-0116594
12-SEP-2000; 2000US-0660465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-546505/58.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference 20
                                                                                                                                                                                                                                                                                                                                                                                 134 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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                                                                                                                                                                                                            The present sequence is the protein sequence for IP131 D20K. The sequence is based on the human interleukin-2 (IL-2) peptide IP130 (see ARN84292) by the addition of a C-terminal Tyr residue, and substitution of the native Asp-20 residue by Lys. Asp-20 is constitution of the native Asp-20 residue by Lys. Asp-20 is located in a region of IL-2 that directly influences interaction of the cytokine with its receptor (IL-2R). An antibody that binds to the peptide is claimed, and is preferably an antibody produced by ybridoma H2-8 (CNCM No. I-2338). A claimed method of detecting the presence or activity of involves contacting a sample with IP131 D20K, and detecting whether binding occurs. A claimed method for inducing IL-2 activity in a patient comprises administering IP131 D20K to the patient. A vector comprises administering IP13 D20K to the patient. A vector comprises administering in PD131 D20K but containing DNA encoding the peptide is claimed, and is used in a claimed method for treating a patient delicient in IL-2 activity. Also claimed method for treating a patient delicient in IL-2 activity. Also claimed method for the patient delicient in IL-2 activity. Also claimed are peptides corresponding to IP131 D20K but containing conservative amino acid substitutions, i.e. change of uncharged polar R-groups by tother uncharged polar R-groups by Lys, Asp by Glu. Thr by Ser. or Asn by Gln, and vice versa. The peptide induces SHC phosphorylation or induction of the SHC/MARK pathway. Antibodies specific for the mumic popular or popular in the section of the section 
                                                                     New peptides derived from Interleukin 2 designated IP130 and IP131 are useful as therapeutic agents in the treatment of patients deficient in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 immune reactions such as graft rejection, or autoimmune disorders such as rheumatoid arthritis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 23;
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Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence of segments A-F of interleukin-2 (IL-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interleukin-2 fusion protein; ballast fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 158; 100.0%; Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP70573 standard; Protein; 134 AA.
                                                                                                                                                                     Claim 18; Page 2; 53pp; English.
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86DE-3636903
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N-PSDB; AAN70921.
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nes 32; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ÅG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32 AA;
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                                                                                                                       IL-2 activity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-OCT-1986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DE3636903-A
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Matches

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AAP70573 RESULT

Alzari P;

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the cytokine with its receptor (IL-2R). An antibody that binds to the peptide is claimed, and is preferably an antibody produced by hybridoma H2-8 (CNCM NO. I-2338). A claimed method of detecting the presence or activity of involves contacting a sample with containing D120K, and detecting whether binding occurs. A claimed method for involves contacting IL-2R with the peptide. A claimed method for inducing IL-2 activity in a patient comprises administering IP31 D20K to the patient. A vector containing DNA encoding the peptide is claimed, and is used in a claimed method for treating a patient deficient in IL-2 activity. Containing conservative amino acid substitutions, i.e. change of non-polar R-groups but other non-polar R-groups, change of non-polar R-groups by other uncharged polar R-groups, substitution of Arg by Lys, Asp by Glu, Th by Ser, or Ash by Glu, and vice versa. The peptide induces SHC phosphorylation or induction of the SHC/MARK pathway. Antibodies specific for the peptide are useful for treatment or prevention of undesirable immune reactions such as grathfitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma;
malignant melanoma; autoimmune disease; infectious disease;
immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New polypeptide comprising a human interleukin-2 (IL-2) mutein useful for treating diseases such as HIV and cancer \cdot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
/note= "wild type Asp has been replaced with Lys"
                                                                                                                                                                                                                                                                                                                                                          te: The present sequence is not shown in the specification but derived from the IL131 sequence given in page 2 (see ABB79534) removal of the N-terminal Met residue.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amino acid sequence of human interleukin-2 (IL-2) mutein D20K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wetzel GD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                96.8%; Score 153; DB 23; 100.0%; Pred. No. 1.3e-14; Live 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY53825 standard; Protein; 133 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US10643.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-MAR-2000 (first entry)
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Matches 31; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                               31 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Key
Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                             Note:
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AAY53822-66 represent human interleukin-2 (IL-2) muteins, where human interleukin-2 (IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type CIL-2, when used in cancer treatment, has adverse side effects. The toxicities associated with IL-2 therapy include severe fever, nausea, omiting, vascular leak and serious hypotension. The muteins described in this invention have reduced toxicity and are better tolerated. It is the mediation of IL-2 through natural killer cells which causes the efficacy is mediated by the direct activation of T cells. The muteins preferentially activate T cells which causes the cells. IL-2 muteins may be used for treating a mammal afflicted with an IL-2 treatable condition. The condition may be one of the following:

HIV, cancer including renal carcinoma and malignant melanoma, autoimmune disease, infectious disease, immune deficiency including SCID or other therapeutic application requiring general stimulation of the immune such as tuberculosis and as an adjuvant in cancer vaccine strategy. The DNA sequences encoding the IL-2 mutein may be used in gene therapy of applications in those diseases in which IL-2 is expected to provide an effective therapy due to its T cell activity.

Cusing information provided and the wild type IL-2 sequence (see
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Method for expressing heterologous proteins - as fusion protein, using vector contg. stabilising sequence
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RE, Rodriquez Reinoso JL;
Herrera Martinez LS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96.8%; Score 153; DB 21; Length 133; 100.0%; Pred. No. 6.5e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   interleukin-2; IL-2; gag 24; gp 41; gp 36; HIV detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human interleukin-2-derived stabiliser peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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Benitez Fuentes JV, Narciandi Diaz
Estrada Garcia MP, Garcia Suarez J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
              Example 5; Page -; 80pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; Page 10; 18pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ilarity 100.0%; Pi
Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR11015 standard; Peptide; 58
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N-PSDB; AAQ10898.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
es 31; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                             133 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-AUG-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
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Resonances between coding and non-coding regions were measured for the native human IL-2 gene in plasmid pT911 (see AA055630) and a synthetic IL-2 gene (AA055639) in which alternative, degenerate codons were used in order to introduce additional restriction sites. It was found that the degenerate changes greatly upset the "natural order" between coding and non-coding regions; as a result, the amount of protein expressed by the degenerate gene is likely to be adversely affected. The inventors have proposed an "optimised" il.2 gene with the aim of increasing the amount of protein expressed by the gene. (N.B. the sequence is also described as
                                                            non-coding region; coding region; resonance; interaction; IL-2; optimization; degenerate sequence; plasmid pT13SNco; pT9-11; gene expression; regulation; recombinant protein production; interleukin-2; interleukin-6.
                                                                                                                                                                                                                                                                                                                                                                   Application of optimised gene expression - for scientific, industrial and therapeutic purposes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A-chain; B-chain; C-chain; disulphide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 152; DB 15;
Pred. No. 3.8e-14;
                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 28 and Fig 29; 110pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96.2%;
96.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mercaptan; chaotropic agent.
                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAQ55629, AAQ55630.
     12-JUL-1994 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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nes 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human pro-insulin 2.
                                 Human Interleukin-2.
                                                                                                                                                                                                                                                                                                                          WPI; 1994-028256/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             interleukin-6).
                                                                                                                                                                                                                                                                     (PERE/) PEREZ
                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pro-insulin;
                                                                                                                                                                                                               22-JUN-1992;
                                                                                                                                                                                                                                        22-JUN-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                           FR2692594-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-1995
                                                                                                                                                                                     24-DEC-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-JUN-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR68899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                Perez J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
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                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunoprotein MPB 70 encoding sequence may be encorporated into plasmid priza with an N-terminal fragment of human IL-2. The plasmid may be used to transform an expression system giving a fusion protein which may be used as a diagnostic agent for bowine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                 24
The sequence corresponds to the first 58 amino acid residues of human IL-2. It forms part of a fusion protein, linked to a heterologous protein. The heterologus protein is preferably gap or a fragment of gp 41 of HIV-1 or it is a fragment of gp 36 of HIV-2. Such fusion proteins can be used to detect antibodies to these proteins. See also AAQ10899-Q10903.
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                                                                                                                               Length 58;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BCG bacteria derived immuno:protein MPB70 - can be used as diagnostic agent used to determine bovine tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                                                                           Bovine tuberculosis; Interleukin-2; IL-2; plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                Human IL-2 N-terminal transcript of plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 152; DB 11;
Pred. No. 3.8e-14;
                                                                                                                           96.2%; Score 152; DB 12;
96.9%; Pred. No. 3.6e-14;
tive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                  1 MAPTSSTKKTQLQLEHLLLDLQMILNGINNY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96.2%;
                                                                                                                                                                                                                                                                               AAR06838 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89JP-0013270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89JP-0013270
                                                                                                                                                                                                                                                                                                                                      14-JAN-1991 (first entry)
                                                                                                                                                         31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tuberculosis infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (AJIN ) AJINOMOTO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1990-278851/37.
                                                                                                                                                                                                                                                                                                                                                                                                                        Mycobacterium bovis
                                                                                                                           Ouery Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                 58 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-JAN-1989;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-AUG-1990.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seguence
                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                           AAR06838;
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Matches
                                                                                                                                                           Matches
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Gaps

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1; Indels

Length 60;

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IL-2; hybrid; diphtheria; toxin; DT; proliferation; peripheral blood; mononuclear cells; PBMC; auto-immune response; diabetes; rheumatoid; arthritis; allograft rejection; T-suppressor.
                                                                                                                                                                                                                                                                                                                       which contains an example of a fusion protein, produced in E.coli which contains an example of a proinsulin molecule corresp.

to the general formula R2-R1-(B2-B29)-Y-X-Gly-(A2-A20)-R3 (II). In formula (II), X = Lys, Arg or a peptide of 2-35 amino acids contg. Lys or Arg at the N- and C-termini; Y = a natural amino acid; R1 = phe or a bond; R2 = H, Arg, Lys, a peptide of 2-45 amino acid; R1 = contg. Arg or Lys at the N- and C-termini; R3 = a natural amino acid; (A2-A20) and (B2-B29) are the insulin A- and B-chain sequences from human or other insulin. The proinsulin molecule, released by residues of mercaptan per Cys residue of proinsulin. The reaction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                           Isolation of insulin that is correctly post-translationally processed - by reacting pro:insulin with a mercaptan in the presence of a chaotropic agent and purificn. after absorption to hydrophobic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         takes place in the presence of a chaotropic auxiliary agent at pH 10-11 and results in proinsulin with correctly linked cystine bridges. Reaction with trypsin and opt. carboxypeptidase B yields correctly folded insulin. The insulin is isolated by absortion on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96.2%; Score 152; DB 16; 96.9%; Pred. No. 6.3e-14; ive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interleukin-2 used to make hybrid proteins.
                                                                                                                   Sabel W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
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                                                                                                                 Obermeier R,
                                                                                                                                                                                                                                                                                       Example 2; Page 8; 16pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR22595 standard; Protein; 133
   95EP-0101748.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91WO-US07342.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         UYHO-) UNIVERSITY HOSPITAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90US-0590113
                                       94DE-4405179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-NOV-1992 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 96.2
Best Local Similarity 96.9
Matches 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Svrluga R;
                                                                                                                                                       WPI; 1995-284754/38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a hydrophobic resin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SERA-) SERAGEN INC
                                                                                                                 Gerl M, Ludwig J,
                                                                             (FARH ) HOECHST AG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-SEP-1991;
 09-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                       18-FEB-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Murphy JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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   QQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proinsulin; post-translational modification; recombinant production; protein folding; conformation.
                                                                                                                                                                                                                                                                                                                     Pro-insulin is produced by treating recombinant precursor protein with a mercaptan to provide 2-10 SH residues per Cys residue, in presence of a chootropic agent and in aq. medium of pH 10-11, treating the prod. with 3-50 g hydrophobic adsorber resin per 1 aq. medium of pH 4-7, isolating the adsorbed resin and pro-insulin and desorbing the pro-insulin. This method produces pro-insulin and correctly bonded Cys bridges. Compared with known methods it involves fewer stages (esp. no sulphitolysis or cyanogen bromide cleavage) and overall losses during purification are reduced, i.e. the process is quitcker and gives better yields. Sequences of insulin chain Ab B and C are given in AAR68895-97.
                                                                                                                                                                                     Prodn. of pro-insulin with correct di:sulphide bridges - by treating recombinant precursor protein with mercaptan in alkali and in presence of chaotropic agent, then isolation on hydrophobic resin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note- "a peptide of 4 amino acids"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 152; DB 15;
Pred. No. 6.3e-14;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76..96
/label= Gly-(A2-A20)-R3
/note= "human insulin A-chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note= "human insulin B-chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusion protein contg. proinsulin sequence 3.
                                                                                                                 Gerl M, Ludwig J, Obermeier R, Sabel W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              45..74
/label= R1-(B2-B29)-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                   Disclosure; Page 11; 15pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR78662 standard; protein; 96 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96.2%;
93EP-0118993.
                                   92DE-4240420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11..44
/label- R2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-APR-1996 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                   WPI; 1994-177718/22
                                                                           (FARH ) HOECHST AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96 AA;
25-NOV-1993;
                                     02-DEC-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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The DNA sequence is esp. selected from a human chromosomal gene bank, e.g. it is a hIL-2 related portion of lamda CH4A-ghIL-2-1 or -2, or of lamda L47-ghIL-2-1, -2 or -3. Transformed hosts are also claimed, esp. E.coli, Ps Spp., B.subtilis, B.stearothermophilus. IL-2-like polypeptides are also claimed.
                                                                                                                                                                Score 152; DB 5; Length 134;
Pred. No. 9.1e-14;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence I of new biologically active interleukin 2 (IL-2).
instead of IL-2 for stimulating the immune system etc.
                                                                                                                                                                                                                     Wengenmayer F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 18-20; 33pp; German.
                           Claim 6; Page 57-58; 69pp; English.
                                                                                                                                                                                                                                                                                                                     AAP50053 standard; Protein; 134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunological agent; lymphokine.
                                                                                                                                                                  96.2%;
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                                                                                                                                                                                                                                                                                                                                                                          (updated)
(first entry)
                                                                                                                                                                Query Match 96.2
Best Local Similarity 96.9
Matches 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Uhlmann E,
Okazaki H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1985-304738/49.
N-PSDB; AAN50037.
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                                                                                                                                      134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-MAY-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28-MAY-1985;
                                                                                                                                                                                                                                                                                                                                                                         16-AUG-2002
03-SEP-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-DEC-1985
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,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                              AAP50053;
                                                                                                                                        Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mertz R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Engels
                                                                                                                                                                                                                                                                                           RESULT 12
                                                                                                                                                                                                                                                                                                        AAP50053
                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                g
                                                                                                                               The interleukin-2 protein is part of a hybrid protein comprising the binding domain of IL-2 and an enzymatically inactive fragment of diphtheria toxin which does not include a functional Dr. of diphtheria toxin which does not include a functional Dr. of eneralised eukaryotic binding site (see AAR26486). The hybrid protein is capable of stimulating the proliferation of peripheral blood mononuclear cells in vitro and of suppressing an immune response in a mammal in vivo. The hybrid protein allows the inhibition of an unwanted immune response such as autoimmune disease, e.g. diabetes and rheumatoid arthritis, or allograft rejection. It does not cause general immunosuppression, so avoids the resulting risk of life threatening infections. In the treatment of allograft rejection the hybrid protien spares donor-specific T-suppressor cells, which can thus proliferate and aid in prolonging graft survival. The hybrid protien does not need to be tailored to individual patients but can be used as a universal inhabiting agent. Therapy need not be
                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Diagnosis; therapy; cancer; tumour-specific cytotoxic cell; AIDS; multiple sclerosis; lupus; rheumatoid arthritis; herpes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence of an interleukin-2-like polypeptide encoded by the DNA
                                                   Hybrid protein comprising portion of the IL-2 binding domain useful for inhibiting unwanted immune responses e.g. autoimmune diseases and reaction to organ and tissue transplants
                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                              following allograft or an acute stage of autoimmune
                                                                                                                                                                                                                                                                                                                                                          disease, but can be discontinued after a course of treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                Score 152; DB 13; Length 133; Pred. No. 9e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prodn. of human interleukin 2-like polypeptide(s) - useful
                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAP40050 standard; Protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                insert of pSV-hIL2-0 or pSV-hIL2-1
                                                                                                           Disclosure; Fig 1; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                96.2%;
96.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83GB-0015981,
83GB-0003383,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84EP-0300439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-JAN-1992 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     viral disease; lymphokine.
                                                                                                                                                                                                                                                                                                                                                                                                                                           31; Conservative
            1992-150820/18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fiers WC, Devos RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1984-232548/38.
N-PSDB; AAN40042.
                                                                                                                                                                                                                                                                                                                                                                                                                              Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                    133 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BIOJ ) BIOGEN NV.
                         N-PSDB; AAQ23867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-JAN-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-JUN-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-FEB-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-SEP-1984.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EP118977-A.
                                                                                                                                                                                                                                                                                                                                               continuons
                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAP40050;
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                           Aatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAP40050
õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
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DNA SQs coding for AAs 1-133 and 0-133 (an additional Met) of IL-2 are claimed, including the CDS of SQ I (see AANSO037) with/without 1 or 2 stop codons. The use of a synthetic gene is esp. convenient for expression in E. coli and allows modification of the AA SQ to improve peptide stability, solubility or activity. The synthetic gene was made from a series of oligonucleotides ligated to form four larger fragments designated IL 2-I to 2-IV (see AANSO038). (Updated on 16-AUG-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
New biologically active interleukin 2 fragments and derivs. - and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                               coding DNA sequences, intermediate oligo-nucleotide(s), hybrid plasmid(s) and transformed cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96.2%; Score 152; DB 6; Length 134; 96.9%; Pred. No. 9.1e-14; Live 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 96.9
Matches 31; Conservative
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Mullner H, Winnacker EL;

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The inventors claim a method for the prodn. of a substance having the AA SQ of AAP61102. The method uses a synthetic DNA SQ (AAN60198). A composition contg. a protein having human IL2 activity which is produced by the method is also claimed. The method uses yeast transformed by a secretory expression vector.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Prefd. fusion proteins are of formula Met-X-Y-Z or Met-Z-Y-X. Where
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                               Protein and peptide prodn. by immobilised yeast transformant contg. expression vector which induces secretion of prod. from cell into culture medium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fusion proteins contg. interleukin 2 aminoacid sequences – ewell as genes coding for these proteins, vectors contg. the genes, and host cells contg. the vectors
                                                                                                                                                                                                                                                                                                                                                                                                                                   / Match 96.2%; Score 152; DB 7; Length 134; Local Similarity 96.9%; Pred. No. 9.1e-14; nes 31; Conservative 0; Mismatches 1; Indels
                                                                                                                                      Nakazato H;
                                                                                                                                                                                                                                                                            Disclosure; Fig 6 and Page 31; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence of human interleukin-2 (IL-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Æ
                                                                                                                                      Tsujimoto M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP70585 standard; protein; 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example; pp 7-8; 20pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Habermann P, Wengenmayer F;
                                            85EP-0109405
                                                                         84JP-0157038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85DE-3541856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                     Oshima T, Tanaka S,
                                                                                                                                                                  WPI; 1986-043554/07.
N-PSDB; AAN60198.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1987-157830/23.
                                                                                                        (SUNR ) SUNTORY LID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (FARH ) HOECHST AG
                                                                                                                                                                                                                                                                                                                                                                                                      134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAN70931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                           26-JUL-1985;
                                                                         27-JUL-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-NOV-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      27-NOV-1985;
              12-FEB-1986.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-APR-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DE3541856-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-JUN-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lymphokine.
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAP70585;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAP70585
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of IL-2 and and for
                                                                                                                                                                                                                                                          Immunotherapy; lymphokine; interleukin-2; thymocyte mitogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence of mature human interleukin 2 (IL2) encoded by SUN-IL2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Microbial expression of interleukin II and analogues - by using manufactured DNA sequences to transform microorganisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 152; DB 6; Length 134;
Pred. No. 9.1e-14;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The inventors claim a manufactured gene for the prodn. of analogues, and for polypeptides of IL-2 and analogues, and methods for their recombinant production. (Updated on 03-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                             Sequence encoded by synthetic interleukin II (IL-2) gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example; Table IV, Page 15-16; 39pp; English
            1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                            1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAPISSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAPTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (east expression vector; lymphokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ä
                                                                                                                     AAP50855 standard; Protein; 134 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAP61102 standard; Protein; 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96.2%;
ilarity 96.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                 84US-0635941
83US-0521967
                                                                                                                                                                                                                                                                                                                                                                                    84WO-US01252
                                                                                                                                                                                (updated)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Souza LM, Stabinsky Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1985-062280/10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 134 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAN50535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (AMGE-) AMGEN
                                                                                                                                                                                                                                                                                                                                                                                  09-AUG-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                   03-AUG-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-MAR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                               03-OCT-2002
01-DEC-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                 10-AUG-1983;
                                                                                                                                                                                                                                                                                                                                                      28-FEB-1985.
                                                                                                                                                                                                                                                                                                                       WO8500817-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP171000-A.
                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
                                                                                                                                                  AAP50855;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP61102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAP61102
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February 20, 2003, 10:03:27; Search time 28.9524 Seconds (without alignments) 106.254 Million cell updates/sec
GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                      OM protein - protein search, using sw model
                                                                                                                                                         Run on:
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US-09-776-781-6 158 1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283224 seqs, 96134422 residues

Searched:

283224 Total number of hits satisfying chosen parameters:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 2000000000

PIR_73:*
1: pirl:*
2: pir2:*
3: pir3:*
4: pir4:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

| | Description | interleukin-2 prec | 7 | | 7 | 7 | | interleukin-2 prec | 2 | interleukin-2 prec | interleukin-2 prec | interleukin-2 prec | -2 | 1 2 | Ψ | isopenicillin N ac | hypothetical prote | (4 | in 2 - | cyclin A2 - Africa | exc | type I restriction | Η | 1 | 2-5A-dependent RNA | · | methyl-accepting c | probable GDSL-moti | beta-1,3-qlucanase | troncont to |
|-----------|----------------|--------------------|-------|--------|--------|--------|--------|--------------------|--------|--------------------|--------------------|--------------------|-------|--------|--------|--------------------|--------------------|--------|--------|--------------------|--------|--------------------|--------|--------|--------------------|--------|--------------------|--------------------|--------------------|-------------|
| SUMMARIES | | ICHU2 | ICGIZ | JN0698 | A31278 | S16241 | 833509 | S31391 | S38662 | S11488 | 145913 | S37289 | ICMS2 | H64307 | GNLJG4 | S12169 | B84483 | 168870 | 154512 | 151637 | G82262 | F64625 | B71890 | 168871 | A45771 | F95285 | F82217 | E84453 | S31712 | HB3921 |
| | DB | . ⊣ | - | ~ | ~ | 7 | ~ | ~ | 7 | ~ | 7 | 7 | Н | ~ | Н | 7 | 7 | ~ | ~ | ~ | ~ | 7 | ~ | ~ | ~ | ~ | ~ | 7 | 7 | ~ |
| | Length | 153 | 153 | 154 | 155 | 154 | 155 | 149 | 155 | 155 | 155 | 169 | 169 | 189 | 1001 | 357 | 452 | 9 | 62 | 415 | 737 | 998 | 875 | 72 | 741 | 304 | 543 | 367 | 474 | 145 |
| ď | Query
Match | 93 | 93.0 | 67.7 | 61.4 | 60.8 | 60.1 | 53.8 | | ٠ | | | | | | | | | | | | | | | | | | 31.3 | | 31.0 |
| | Score | 147 | 147 | 107 | 97 | 96 | 95 | 82 | 72 | 72 | 72 | 69 | 64 | 61 | 54 | 53 | 53 | 52.5 | 51.5 | 51.5 | 51 | 51 | 21 | 50.5 | | 20 | 20 | Φ | • | 49 |
| | Result
No. | П | 7 | m | 4 | S | 9 | 7 | 80 | 6 | 10 | 11 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 56 | 27 | 28 | 53 |

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| hypothetical prote anthranilate isome | conserved hypothet aminopeptidase C [| aminopeptidase C hypothetical prote | nonmuscle myosin I | pancreatic-type ri | hypothetical prote | hypothetical prote | hypothetical prote | cyclin A - bovine | cyclin A - human | alkaline proteinas | hypothetical prote | |
|---------------------------------------|---------------------------------------|-------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|------------------|--------------------|--------------------|--------|
| B89930
G64679 | B70209
AB1367 | AC1736
S76795 | A59282 | NRBOK2 | T11685 | S39521 | T46103 | S24788 | 508277 | D71687 | T33319 | S76672 |
| 0.0 | 00 | 0 0 | 7 | - | 7 | ~ | ~ | 7 | ~ | ~ | ~ | 7 |
| 288 | 398
441 | 441 | 1964 | 127 | 244 | 257 | 307 | 406 | 432 | 511 | 531 | 564 |
| 30.7 | 30.4 | 30.4 | 30.4 | 30.1 | 30.1 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| 48.5 | 4 4
8 8 | 4 4
8 8 | 48 | 47.5 | 47.5 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| 30
31 | 33
33
33 | 34
35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

ALIGNMENTS

| | RESULT 1 ICHU2 interleukin-2 precursor [validated] - human N;Alternate names: IL-2; T-cell growth factor |
|-----|--|
| | C;Species: Home Sapiens (Mad)
C;Date: 11-Aug-1983 #sequence_revision 11-Aug-1983 #text_change 08-Dec-2000
C;Accession: A01849; A21192; A20961; S31209; A93297; A90113; A93478; I56518; I73624;
R:Holbrook, N.J.; Lieber, M.; Crabtree, G.R. |
| | Nucleic Action Res. 12, 2003-2013, 1984 A;Title: DNA sequence of the 5' flanking region of the human interleukin 2 gene: homo A;Reference number: A93524; MUID:84247353; PMID:6330695 A;Accession: A01849 A:A01849 |
| | A; Residues: 1-153 <-HOLD-A; Residues: 1-153 <-HOLD-A; Residues: 1-153 <-HOLD-A; Residues: 1-153 <-HOLD-A; Casaldues: GB:X00695; GB:X00200; GB:X00201; GB:X00202; NID:g33783; PIDN:CAA2 R; Fujita, T.; Takaoka, C.; Matsul, H.; Taniguchi, T. Proc. Natl. Acad. Sci. U.S.A. 80, 7437-7441, 1983 A; Title: Structure of the human interleukin 2 gene. |
| | A; Reference number: A21192; MUID:84170243; PMID:6324170
A; Accession: A21192
A; Molecule type: DNA |
| | A; Kesidues: 1-153 <fuj> A; Cross-references: GB:J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676 R; Holbrook, N.J.; Smith, K.A; Fornace Jr., A.J.; Comeau, C.M.; Wiskocil, R.L.; Crabt</fuj> |
| | A:Title: Treel1 growth factor: complete nucleotide sequence and organization of the g
A:Reference number: A20961; MUID:84170356; PMID:6608729
A:Accession: A20961
A:Molecule type: DNA |
| | A; Residues: 1-153 <ho2> A; Cross-references: GB:KO2056; NID:g186302; PIDN:AAA98792.1; PID:g386819 R; Clash, Y; Grash, M:P; Carbonnel, F.; Brouet, J.C.; Berger, R.; Larsen, C.J.; Tsapi</ho2> |
| | A.Title: A new gene, BCM, on chromosome 16 is fused to the interleukin 2 gene by a t(A.Title: A new gene, BCM, on chromosome 16 is fused to the interleukin 2 gene by a t(A.Reference number: S31208; MUID:93010984; PMID:1396583 |
| | A:MOlecule type: mRNA
A;Residues: 11-117 <laa>
A;Cross-references: EMBL:214955</laa> |
| | A; Note: this sequence is shown from the beginning of the fragment to the chromosomal R; Taniguchi, T.; Matsure 30.7 30.7 30.7 30.7 30.7 30.7 30.7 30.7 |
| 1.1 | A;Title: Structure and expression of a cloned cDNA for human interleukin-2. A;Reference number: A93297; MUID:83167472; PMID:6403867 A;Accession: A93297 A;Accession: A93297 |
| | A; ROSGIQUES: 1-153 < TRAN-A; ROSGIQUES: 1-153 < TRAN-A; ROSGIQUES: 1-153 < TRAN-A; ROSGIQUES: 1-153 < TRAN-A; CASSIQUES: 1-153 < TRAN-A; CASSIGNED S. 1-153 < TRAN-A; CASSIGNED S. 1-150 < TO TRAN-A; EXPERIMENTAL SOURCE: 104Kehrl 1 |

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N'Alternate names: IL-2; T-cell growth factor C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Date: 31-Dec-1991 *Requence_revision 31-Dec-1991 *text_change 22-Jun-1999
C;Accession: A94067; A01849
R;Chen, S.J.; Holbrook, N.J.; Mitchell, K.F.; Vallone, C.A.; Greengard, J.S.; Crabtre Proc. Natl. Acad. Scl. U.S.A. 82, 7284-7288, 1985
A;Title: A viral long terminal repeat in the interleukin 2 gene of a cell line that c A;Reference number: A94067; MUID:86042650; PMID:3877307
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A; Experimental source: leukemia cell line MLA 144; ATCC TIB 201
A; Note: the integration of a retrovirus sequence containing a 5' LTR into the 3' nonc 5; Superfamily: interleukin.2
C; Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-ce F:1-20/Domain: signal sequence #status predicted <SIG>F:21-153/Product: interleukin.2 #status predicted <IL2>F:21-153/Product: acarbohydrate (Thr) (covalent) #status predicted
F:78-125/Disulfide bonds: #status predicted
                                                  A; Molecule type: protein
A; Residues: 21-35 <CONN
A; Residues: 21-35 <CONN
A; Residues: 21-35 <CONN
A; Residues: 21-35 <CONN
A; Role: the O-linked glycosylation site in recombinant material matched that from hum R; Grabenhorst, E.; Hofer, B.; Nimtz, M.; Jaeger, V.; Conradt, H.S.
Eur. J. Blochem. 215, 189-197, 1993
A; Title: Biosynthesis and secretion of human interleukin 2 glycoproteins variants fro A; Feference number: S34052; MUID:93345493; PMID:8344280
A; Contents: annotation; glycosylation of variant forms expressed in insect cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A Map position: 4q26-4q27
A; Introns: 49/3; 69/3; 117/3
A; Introns: 49/3; 69/3; 117/3
C; Superfamily: interleukin-2
F; I-20/Domain: signal sequence #status predicted <SIC>
F; I-153/Product: interleukin-2 #status experimental <IL2>
F; I-153/Product: interleukin-2 #status experimental <IL2>
F; 78-125/Disulfide bonds: #status experimental
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C;Species: Felis silvestris catus (domestic cat)
C;Date: 03-Feb-1994 #text_change 16-Jul-1999
C;Accession: JN0698
R;Cozzi, P.J.; Padrid, P.A.; Takeda, J.; Alegre, M.L.; Yuhki, N.; Leff, A.R.
Biochem. Biophys. Res. Commun. 194, 1038-1043, 1993
A;Fille: Sequence and functional characterization of feline interleukin 2.
A;Reference number: JN0698; MUID:93356765; PMID:8352761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93.0%; Score 147; DB 1; Length 153; 96.8%; Pred. No. 7.4e-14; 1ve 0; Mismatches 1; Indels
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Pred. No. 7.4e-14;
0; Mismatches 1;
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A;Cross-references: GDB:119344; OMIM:147680
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Best Local Similarity 96.8%;
Matches 30; Conservative
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Matches 30; Conservative
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A; Residues: 1-153 <CHE>
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A; Note: mutation of Phe-42 to Ala reduced binding to the IL-2 receptor 5-10 fold without R; Robb. R.T.; Kutny, R.M.; Panico, M.; Morris, H.R.; Chowdhry, V. Proc. Natl. Acad. Sci. U.S.A. Bl, 6486-6490, 1994
A; Title: Amino acid sequence and post-translational modification of human interleukin 2. A; Reference number: A94009; MUID:85038540; PMID:6333684
                                                                                          A; Molecule type: mRNA
A; Residues: 1-153 < MAE>
A; Residues: 1-153 < MAE>
A; Residues: 1-153 < MAE>
A; Cross-references: GB:J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676
A; Experimental source: tonsillar mononuclear cells
R; Devos, R.; Plaetinck, G.; Cheroutre, H.; Simons, G.; Degrave, W.; Tavernier, J.; Remau Nucleic Acids Res. 11, 4307-4323, 1983
A; Title: Molecular cloning of human interleuk, 2 cDNA and its expression in Escherichia A; Reference number: A93478; MUID:83246551; PMID:6306584
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A; Mostdues: 1-68 CRE2.
A; Residues: 1-68 CRE2.
A; Cross-references: GB:M33199; NID:g186296; PIDN:AAA59139.1; PID:g553508
B; Stebenlist, U.; Durand, D.B.; Bressler, P.; Holbrook, N.J.; Norris, C.A.; Kamoun, M.;
Mol. Cell. Blol. 6, 33042-33049, 1986
A; Title: Promoter region of interleukin-2 gene undergoes chromatin structure changes and A; Reference number: 157603; MUID:87064618; PMID:3491296
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A; Residues: 21-153 <ROB>
A; Residues: 21-153 <ROB>
A; Note: disulfide bonds and carbohydrate binding site were determined
A; Note: heterogeneity in Jurkat-derlyed IL-2 is primarily due to differences in glycosyl
n in lacking 21-Ala (FT-I12-A and FT-IL2-B) and 22-Pro (FT-IL2-B)
R; Conradt, H.S.; Nimtz, M.; Dittmar, K.E.J.; Lindenmaier, W.; Hoppe, J.; Hauser, H.
J. Biol. Chem. 264, 17368-17373, 1989
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross references: GB:V00564; NID:g33780; PIDN:CAA23827.1; PID:g33781
A;Experimental source: splenocytes
R;Eizenberg, O.; Faber-Elman, A.; Lotan, M.; Schwartz, M.
J. Neurochem. 64, 1928-1936, 1995
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A; Reference number: A90113; MUID:84023840; PMID:6312994
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Residues: 1-152 <EI2>;Cross-references: GB:S77834; NID:9999000
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Molecule type: DNA
Residues: 1-68 <RE3>
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Residues: 'M',21-153 <RE4>
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Accession: 152528
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Interleukin-2 - Mongolian jird
C;Species: Meriones unguiculatus (Mongolian jird)
C;Species: Meriones unguiculatus (Mongolian jird)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C;Accession: S33509
R;Mai, Z.; Klei, T.; Horohov, D.
R;Mai, Z.; Klei, T.; Horohov, D.
A;Bestription: Cross-species PCR cloning of Jird (Meriones unguiculatus) interleukin-A;Reference number: S33509
A;Accession: S33509
A;Accession: S33509
A;Accession: S33509
A;Accession: S33509
A;Accession: S43509
A;Accession: A;Ac
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Cispecies: Equus caballus (domestic horse)
Cispecies: Equus caballus (domestic horse)
Cispecies: Bquus caballus (domestic horse)
Cispecies: Sila-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
Cispecies: Sila-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
Cispecies: Bilandler, G.W.
Submitted to the EMBL Data Library, November 1992
A. Bubmitted to the EMBL Data Library, November 1992
A. Reference number: Sila91
A. Reference number: Sila91
A. Status: preliminary
A. Molecule type: manA
A. Residues: 1-149 <-TAV
A. Residues: 1-149 <-TAV
A. Cross-references: EMBL: X69393; NID:q1076; PIDN:CAA49190.1; PID:q1077
C; Superfamily: interleukin-2
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C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C;Accession: S38662
submitted to the EMBL Data Library, November 1993
A;Description: The molecular cloning and expression of caprine interleukin 2A;Reference number: S38662
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A;Cross-references: EMBL:X68779; NID:g577588; PIDN:CAA48679.1; PID:g311638
C;Superfamily: interleukin-2
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       Length 154;
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Pred. No. 6.5e-05;
8; Mismatches 6; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 95; DB 2; Length 155
Pred. No. 2.5e-06;
2; Mismatches 9; Indels
   Score 96; DB 2; I
Pred. No. 1.7e-06;
; Mismatches 7;
                                                                                                                                             2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                  21 APTSSSTKNTKKQLEPLLLDLQLLLKEVKNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 APTSSPAKEAQQYLEQLLLDLQQLLRGINNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSRRETQQQLKQLQMDLKLLLEGVNN 50
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Best Local Similarity 64.5%;
Matches 20; Conservative ;
60.8%;
llarity 64.5%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      interleukin-2 precursor - horse
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Best Local Similarity 53.3
Matches 16; Conservative
                                    Similarity
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   Query Match
Best Local S:
Matches 20
                                                                                                                                                                                                                                                                                                                     RESULT 6
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A;Description: Molecular cloning of porcine interleukin 2 cDNA by the polymerase chain A;Reference number: $15473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N; Alternate names: IL-2; T-cell growth factor
C; Species: Rattus norvegicus (Norway rat)
C; Date: 26-Apr-1989 #sequence_revision 26-Apr-1989 #text_change 16-Jul-1999
C; Accession: A45882; Mason, D.W.; Barclay, A.N.
Immunogenetics 30, 145-147, 1989
A; Title: Sequence of rat interleukin 2 and anomalous binding of a mouse interleukin 2 and A; Reference number: A45882; MUID:89339608; PMID:2788130
A; Status: preliminary
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N;Alternate names: IL-2; T-cell growth factor
C;Species: Sus scrofa domestica (domestic pig)
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
C;Accession: S16241; S15473
R;Goodall, J.C.; Emery, D.C.; Bailey, M.; English, L.S.; Hall, L.
Biochim. Biophys. Acta 1089, 257-258, 1991
A;Title: CDNA cloning of porcine interleukin 2 by polymerase chain reaction.
A;Reference number: S16241; MUID:91274360; PMID:2054386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: variations, control of Superfamily: interleukin-2
C;Keywords: cytokine; glycoprotein; growth factor; immunoregulation; T-cell
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;Molecule type: mRNA
;Residues: 1-155 <MCK>
;Cross_references: GB:M22899; NID:9204909; PIDN:AAA41427.1; PID:9204910
                                                                                                  A;Residues: 1-154 <CO2>
A;Residues: 1-154 <CO2>
A;Cross-references: GB119402; NID:g304313; PIDN:AAA02865.1; PID:g304314
C;Superfamily: interleukin-2
C;Reywords: growth factor
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Residues: 1-154 <LEF>
Cross-references: EMBL:X58428; NID:g2068; PIDN:CAA41330.1; PID:g2069
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Pred. No. 1.3e-06;
4; Mismatches 7; Indels
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                                                                                                                                                                                                                                                                         Score 107; DB 2;
Pred. No. 4.5e-08;
5; Mismatches 4,
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                                Status: nucleic acid sequence not shown
                                                                                                                                                                                                                                                                             67.78;
70.08;
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64.58;
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Best Local Similarity 70.0
Matches 21; Conservative
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nes 20; Conservative
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A; Residues: 1-154 <GOO>
                                                                     Molecule type: mRNA
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   A; Accession:
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Matches
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A;Status: preliminary

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A; Gene: IL-2
C; Superfamily: interleukin-2
C; Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-ce
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R;Ghosh, S.; Palmer, S.M.; Rodrigues, N.R.; Cordell, H.J.; Hearne, C.M.; Cornall, R.J
Nature Genet. 4, 404-409, 1993
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(Species: Mus musculus (house mouse)
(Species: Mus musculus (house mouse)
(Spate: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 21-Jul-2000
(Shacession: A93550; A54490; A94064; I48597; A01850; I84713
R;Fuse, A.; Fujita, T.; Yasumitsu, H.; Kashima, N.; Hasegawa, K.; Taniguchi, T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Mus musculus (house mouse)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S37289; S27205; S36162; S24936
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C; Keywords: cytokine; glycoprotein; growth factor; lymphokine; T-cell
E;1.20/Domain: signal sequence #status predicted <SIG>
F;21-63/Product: interleukin-2 #status predicted <MAT>
                                                                                                             A; Cross-references: EMBL:X17201; NID:g452; PIDN:CAA35062.1; PID:g453
C; Genetics:
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9
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R;Matesanz, F.; Alcina, A.; Pellicer, A.
Bjochim. Biophys. Acta 1132, 335-336, 1992
A;Title: A new cDNA sequence for the murine interleukin-2 gene.
A;Reference number: $27205; MUID:93041941; PMID:1420317
                                                                                                                                                                                                                                                                                                                 Length 155;
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                                                                                                                                                                                                                                                                                 Score 72; DB 2; Len
Pred. No. 0.0052;
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Pred. No. 0.015;
6; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                     6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Todd, J.A.
submitted to the EMBL Data Library, April 1993
A;Reference number: S37289
A;Accession: S37289
                                                                                                                                                                                                                                                                                                                                                                                                                                                        21 APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
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Matches 17; Conservative
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Matches 15; Conservative
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A; Residues: 1-169 <TOD>
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A;Molecule type: mRNA
A;Residues: 1-50 <GHO>
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S37289
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A; Residues: 1-155 <GOO>
A; Cross-references: EMBL:X33934; NID:g1281; PIDN:CAA37881.1; PID:g1282
R; Scow, H.F.; Rothel, J.S.; Radford, A.J.; Wood, P.R.
Nucleic Acids Res. 18, 7175, 1990
A; Title: The molecular cloning of ovine interleukin 2 gene by the polymerase chain react
A; Reference number: S13102; MUID:91088336; PMID:2263496
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A; Title: Cloning, sequence, and expression of bovine interleukin 2.
A; Reference number: 145913; MUID:86205869; PMID:3517854
A; Accession: 145913
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 16-Jul-1999
C;Accession: Sil488; Sil07; Sil5517
R;Goodall, J.C.; Emery, D.C.; Perry, A.C.F.; English, L.S.; Hall, L.
Nucleic Acids Res. 18, 5883, 1990
A;Title: CDNA cloning of ovine interleukin 2 by PCR.
A;Reference number: Sil488; MUID:91016933; PMID:2216781
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C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 16-Jul-1999
C;Accession: 145913; S21470; S20761
           Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-5, L', 7-155 <SEO>
A; Cross-references: EMBL:X55641; NID:g1810; PIDN:CAA39165.1; PID:g1811
R; Bujdoso, R.; Williamson, M.L.; Sargan, D.R.; Hein, W.H.; McConnell, submitted to the EMBL Data Library, April 1991
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                                                                                                                                    Score 72; DB 2;
Pred. No. 0.0052;
6; Mismatches S
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Best Local Similarity 50.0%;
Matches 15; Conservative 6
                                                                                                                                    Query Match
Best Local Similarity 50.0%;
Matches 15; Conservative
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A; Residues: 21.153 <BUJ>
A; Cross-references: EMBL:X60148
C; Superfamlly: interleukin-2
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  A; Molecule type: mRNA
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NiAlternate names: acyl coenzyme A-6-aminopenicillanic acid acyltransferase; acyltran Cispecies: Emericals andulans
C;Species: Emericals andulans. Aspergillus nidulans
C;Species: Emericals andulans. Aspergillus nidulans
C;Species: Emericals andulans. Aspergillus nidulans
C;Accession: S12169; A36142; S09090
R;Accession: S12169; A36142; S09090
R;Accession: S12169; A36142; S09090
A;Title: Cloning, characterization of the acyl-CoA:6-amino penicillanic acid acyltran A;Reference number: S12169; MUD:90340281; PMID:2166227
A;Accession: S12169
A;Status: preliminary
A;Residues: 1-357 <AMONN
A;Cross-references: EMBL:X53310; NID:92378; PIDN:CAA37394.1; PID:92379
A;Title: Molecular characterization of the acyl-coenzyme A:Isopenicillin N acyltransf A;Reference number: A36142; MUD:91008967; PMID:2120195
A;Accession: A36142
A;Accession: A3614
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A;Accession: S09090
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A;Residues: 1-357 <TOB>
A;Cross-references: GBs.M58293; NID:q167999; PIDN:AAA33287.1; PID:g168000
A;Cross-references: GBs.M58293; NID:g167999; PIDN:AAA33287.1; PID:g168000
B;Whiteman, P.A.; Abraham, E.P.; Baldwin, J.E.; Fleming, M.D.; Schofield, C.J.; Suthe FEBS Lett. 262, 342-344, 1990
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Pred. No. 17;
4; Mismatches
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                                       Pred.
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37.9%; F1.
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58.8%;
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976 TQLEIQHLQTKIQKILN 992
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Matches 10; Conservative
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A; Residues: 103-122 <WHI>
                                  Local Similarity
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Matches
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R;Yokota, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
R;Yokota, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
R;Yokota, T.; Arai, Sci. U.S.A. 82, 68-72, 1985
A;Title: Use of a cDNA expression vector for isolation of mouse interleukin 2 cDNA clone A;Reference number: A94064; MUID:85113172; PMID:3918306
A;Accession: A94064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-169 < YOK.
A; Residues: 1-169 < YOK.
A; Croshima, N.; Nishi-Takaoka, C.; Fujita, T.; Taki, S.; Yamada, G.; Hamuro, J.; Taniguch
Nature 313, 402-404, 1985
A; Title: Offique structure of murine interleukin-2 as deduced from cloned cDNAs.
A; Reference number: 148597; MUID:85111148; PMID:2578624
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C;Superfamily: interleukin-2
C;Superfamily: interleukin-2
C;Superfamily: interleukin-2
F;Superfamily: signal sequence #status predicted <SIG>
F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-169/Product: interleukin-2 #status predicted <MAT>
F;23/Binding site: carbohydrate (Thr) (covalent) #status predicted
F;92-140/Disulfide bonds: #status predicted
                                                                                                                                                                                                                  A;Molecule type: DNA
A;Residues: 1-169 ¢R05,
Ks;Degrave, W.; Simons, G.; Devos, R.; Plaetinck, G.; Remaut, E.; Tavernier, J.; Fiers,
Mol. Biol. Rep. 11, 57-61, 1986
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A;Accession: A54490
                                            A;Title: Organization and structure of the mouse interleukin-2 gene. A;Reference number: A93550; MUID:85087940; PMID:6240025 A;Accession: A93550 A;MOID:85087940; PMID:6240025 A;MOIEcule type: DNA
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A;Molecule type: mRNA
A;Residues: 1-169 <RES>
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                             Res. 12, 9323-9331, 1984
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A; Residues: 1-169 <DEG>
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MEDLINE-83167472; PubMed-6403867;
MEDLINE-83167472; PubMed-6403867;
Taniguchi T., Matsul H., Fujita T., Takaoka C., Kashima N.,
Taniguchi T., Hamuro J.;
"Schimoto R., Hamuro J.;
"Structure and expression of a cloned cDNA for human interleukin-2.";
Nature 302:305-310(1983).
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Devos R., Plaetinck G., Cheroutre H., Simons G., Degrave W.,
Tavernier J., Remaut E., Flers W.
"Molecular cloning of human interleukin 2 cDNA and its expression in
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIES-Human;
MEDLINE-84247353; PubMed-6330695;
MEDLINE-84247353; PubMed-6330695;
Holbrook N.J., Lieber M., Crabtree G.R.;
"DNA sequence of the 5' flanking region of the human interleukin gene: homologies with adult T-cell leukemia virus.";
Nucleic Acids Res. 12:5005-5013(1984).
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P26362
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
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G6PI_BORBU
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SPECIES-Human: TISSUE-placenta;
MFDLINE-9642299; PubMed-8824916;
Chernicky C.L., Tan H., Burfeind P., Ilan J., Ilan J.;
Sequence of interleukin-2 isolated from human placental poly A+ RNA:
possible role in maintenance of fetal allograft.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Siebenlist U., Durand D.B., Bressler P., Holbrook N.J., Norris C.A., Kamoun M., Kant J.A., Crabtree G.R.;
"Promoter region of interleukin-2 gene undergoes chromatin structure changes and confers inducibility on chloramphenical acetyltransferase gene during activation of T cells.";
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                                                                                                                          MEDLINE-95239150; PubMed-7722480;
Eizenberg O., Faber-Elman A., Lotan M., Schwartz M.;
"Interleukin-2 transcripts in human and rodent brains: possible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nishino N., Obaru K., Maeda S., Shimada K., Onoue K.; "Organization of the DNA regions flanking the human interleukin
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                                            MEDLINE-84170243; PubMed-6324170;
Fujita T., Takacha C., Martsul H., Taniguchi T.;
"Structure of the human interleukin 2 gene.";
Proc. Natl. Acad. Sci. U.S.A. 80:7437-7441(1983).
Proc. Natl. Acad. Sci. U.S.A. 81:1634-1638(1984).
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MEDLINE-89062420; Pubmed-3264184;
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MEDLINE-87064618; PubMed-3491296;
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MEDLINE-85038540; PubMed-6333684;
                                                                                                                                                             expression by astrocytes."; J. Neurochem. 64:1928-1936(1995).
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T mcdelling:

C Structure 2:839-851(1994).

C -1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUICAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-CATIVITIES CRUICAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-CATIVITIES CELLS, AND GLIOMA CELLS.

C -1- SUBGELIULAR LOCATION: Secreted.

C -1- DISEASE: A FORM OF T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (T-ALL) IS CHARACTERIZED BY A CHROMOSMAL TRANSLOCATION T(4:16)(Q26:P13)

CC -1- PHARMACCUTICAL: Available under the name Proleukin (Chiron). Used in patients with renal cell carcinoma or metastatic melanoma.

CC -1- SIMILARITY: BELONGS TO THE IL-2 FAMILY.

CC -1- SIMILARITY: BELONGS TO THE IL-2 FAMILY.

CC -1- DATABASE: NAME-RED Systems com/asp/g_sitebulider.asp?bodyId-206".
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Bamborough P., Hedgecock C.J., Richards W.G.;
"The interleukin-2 and interleukin-4 receptors studied by molecular
                                                                        Chen S.J., Holbrook N.J., Mitchell K.F., Vallone C.A., Greengard J.S., Crabtree G.R., Lin Y.; A viral long terminal repeat in the interleukin 2 gene of a cell line that constitutively produces interleukin 2 "; Proc. Natl. Acad. Sci. U.S.A. 82:7284-7288(1985).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mott H.R., Driscoll P.C., Boyd J., Cooke R.M., Weir M.P., Campbell I.D.;
                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-88070646; PubMed-3500515;
Brandhuber B.J., Boone T., Kenney W.C., McKay D.E.
"Three-dimensional structure of interleukin-2.";
Science 238:1707-1709(1987).
                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Unraveling the structure of IL-2."; Science 257:410-412(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                X-RAY CRYSTALLOGRAPHY.
MEDLINE-92335891; PubMed-1631562;
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MEDLINE-92379010; Pubmed-1510960;
SPECIES-H.lar;
MEDLINE-86042650; Pubmed-3877307;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 experiments.";
Biochemistry 31:7741-7744(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        McKay D.B.;
Science 257:412-413(1992).
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AAA35453.1;
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                                                                                                                                                                                                                                                                                                                                                        J. Inmunol. 155:3946-3954(1995).
-1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIEFRATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
                                                                                                                      Macaca mulatta (Rhesus macaque), and Macaca mensstrina (Pig-tailed macaque). Bukacaca nemestrina (Pig-tailed macaque). Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                     Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A., "Comparative sequence analysis of cytokine genes from human and nonhuman primates.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                        Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93.0%; Score 147; DB 1;
                                 01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
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 154 AA
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-1- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
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PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
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MEDLINE=96003435; PubMed-7561102;
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HSSP; P01585; 3INK.
 STANDARD;
                                                                                                                                                                                               Cercopithecinae; Macaca.
NCBI_TaxID=9544, 9545;
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nes 30; Conserv
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P46649;
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O-LINKED (GALNAC. ..) (BY SIMILARITY).
BY SIMILARITY.
7853FE624A5E4A49 CRC64;
                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
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                                                                                                                                                                                                                                                01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                                                                                                                                                                                                                                                       Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey)
             Score 147; DB 1; Length 153; Pred. No. 5.8e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 147; DB 1; Length 154; Pred. No. 5.8e-15;
                                                  1; Indels
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-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
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                                                0; Mismatches
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                                                                                    2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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                                                                                                         21 APTSSSTKKTQLQLEHLLLDLQMILNGINNY
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Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
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17686 MW;
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96.8%;
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96.8%;
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                                                30; Conservative
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                                 Best Local Similarity
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01-NOV-1997 (
16-OCT-2001 (
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Best Local Simulation 30;
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Q29615;
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               Query Match
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SIGNAL
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Length 154; Indels

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"Sequence and characterization of phocine interleukin 2.";
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Local Sim.
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AC 12.9U:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                        J. Immunol. 155:3946-3954(1995).

-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULARION, THIS PROTEIN IS REQUIRED FOR T-CELL. PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN SITMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURALE B CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .) (BY SIMILARITY)
Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey). Usukaryota; Metazoa; Chordata; Cranlata; Vertebrata; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mirounga angustirostris (Northern elephant seal).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Mirounga.
                                                                                                                                                                                             Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A., "Comparative sequence analysis of cytokine genes from human and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 062641;
15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 142; DB 1; Length 154;
Pred. No. 3.3e-14;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R -> S.
K -> E.
9FEB51814204BA48 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BY SIMILARITY.
INTERLEUKIN-2.
O-LINKED (GALNAC..
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   154 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shoda L.K.M., Brown W.C., Rice-Ficht A.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00424; INTERLEUKIN_2; 1
Cytokine; Glycoprotein; Immune resi
                                                                                                                                                                           MEDLINE-96003435; PubMed-7561102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-98136706; Pubmed-9476229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17754 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U19846; AAB60399.1; -. HSSP; P01585; 3INK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            154 AA;
                                                                                                                                                                                                                                             nonhuman primates."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [1]
SEQUENCE FROM N.A.
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                                                                                                                               SEQUENCE FROM N.A.
                                                                                    NCBI_TaxID=9531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9716;
                                                                                                                                                      TISSUE-Blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29;
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ID IL2_MIRAN
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SEQUENCE
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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J. Wildl. Dis. 34:81-90(1998).
-1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROPEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE-96016696; Pubmed-8571541;
Somberg R.L., Pullen R.P., Casal M.L., Patterson D.F., Felsburg P.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Henthorn P.S.; "A single nucleotide insertion in the canine interleukin-2 recept gamma chain results in X-linked severe combined immunodeficiency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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0
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15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
10-MAY-2000 (Rel. 39, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3; Indels
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0C92337A4B16B6BB CRC64;
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STRAIN-XBRED21/12/93; TISSUE-Lymph node;
MEDLINE-95337423; Pubmed-7612930;
Dunham S.P., Argyle D.J., Onions D.E.;
"The isolation and sequence of canine interleukin-2.";
DNA Seq. 5:177-180(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; DB 1;
2.6e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INTERLEUKIN-2.
O-LINKED (GALNAC.
                                                                                                                                                                                                             SUBCELLULAR LOCATION: Secreted. SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            155 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 2.66
6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.4%; Score 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro: IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. Procom: PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17661 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U79187; AAC12258.1; -. HSSP; P01585; 3INK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        71.08;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
154
23
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"The complete cDNA sequences of IL-2, IL-4, IL-6 AND IL-10 from the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
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                                                                                                                                                                                                                                            HSSP; P01585; 31NK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9685;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1L2_FELCA
Q07885;
                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
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                                                                                                                                                                                                                                                                                                                                              T-cell.
                                                                                                                                                                                                                                                                                                                                                        SIGNAL
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                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the SWIss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.

INTERLEUKIN-2.

O-LINKED (GALNAC. . .) (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (POTENTIAL).

BY SIMILARITY.

M -> I (IN REF. 3).

C -> R (IN REF. 3).

F -> Y (IN REF. 3).

L -> M (IN REF. 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                   MEDLINE-157.

MEDLINE-95347614; PubMed=7622066;

MEDLINE-95347614; PubMed=7622066;

MEDLINE-95347614; PubMed=7622066;

MEDLINE-95347614; PubMed=7622066;

MIDGENIG Of the canine interleukin-2-encoding cDNA.";

Gene 159:281-282(1995).

-!-FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL

PROLIFERATION AND OTHER ACTIVITIES CRUCTAL TO REGULATION OF THE

INMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-

ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.

-!- SUBCELLULAR LOCATION: Secreted.

-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                     Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 107.5; DB 1; Length 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUL-1999 (Rel. 38, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Lymph node;
MEDLINE-20304414; PubMed=10843729;
Perkins H.D., van Leeuwen B.H., Hardy C.M., Kerr P.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D123E486B7F4AC1D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 107.5,
Pred. No. 4.9e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      153 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 AP-TSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21 APITSSSTKETEQOMEQLLLDLQLLLLNGVNNY 52
                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                            InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00424; INTERLEUKIN_2; 1
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(Rel. 38, Last sequ
(Rel. 41, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17668 MW;
                                                                                                                                                                                                                                                                            EMBL; D30710; BAA06378.1; -. EMBL; U28141; AAA68969.1; -. EMBL; U11689; AAA75360.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                68.0%;
68.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 68.8 Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                               IL2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37
151 1
154 1
155 AA;
                                                                                                                                                                                                                                                                                                                  HSSP; P01585; 31NK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                              SMART; SM00189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             077620;
15-JUL-1999 (
15-JUL-1999 (
15-JUN-2002 (
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CONFLICT
CONFLICT
SEQUENCE
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IL2_RABIT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Sequence and functional characterization of feline interleukin 2."; Biochem. Biophys. Res. Commun. 194:1038-1043(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lifman R., Gibbs C., Good R.A., Day N.K.;
Submitted (NOV-1994) to the EMBL/GenBank/DbBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
                                                               -i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONCOYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, AND GLIOMA CELLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O-LINKED (GALNAC. . .) (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Felis silvestris catus (Cat).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Carnivora, Fissipedia, Felidae, Felis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
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01-077-1994 (Rel. 30, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cozzi P.J., Padrid P.A., Takeda J., Alegre M.-A., Yuhki N.,
Leff A.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Y SIMILARITY.
8173536B2DDD8B86 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 107; DB 1;
Pred. No. 5.8e-09;
                                                                                                                                                                                                                                                    -i- SUBCELLULAR LOCATION: Secreted.
-i- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
INTERLEUKIN-2.
European rabbit (Oryctolagus cuniculus).";
Cytokine 12:555-565(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21 APTSSSTKETQEQLDQLLLDLQVLLKGVNDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. ProDom; PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1. PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-93356765; PubMed-8352761;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AF068057; AAC23838.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     111 111 N
78 125 B
153 AA; 17256 MW;
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67.78;
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                   noved. Usage by and for commercial
(See http://www.lsb-slb.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     between the Swiss Institute or BIOINIVALMALLY .... .... the European Bioinformatics Institute. There are no restrictions on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

Iwata H., Hasegawa A., Yamamoto M., Olda T., Endo Y., Inoue T.;

Iwata H., Hasegawa A., Yamamoto M., Olda T., Endo Y., Inoue T.;

Structure of the porchae obromosomal interleukin-2 gene.";

Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases

-i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL

PROLIFERATION AND OTHER ACTIVITIES CRUCLAL TO REGULATION OF THE
                                                                                                                                                                                                                                                                                                                            O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
67A8554A73BF30A0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted. SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                       PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
15-UNN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                    Db -,
-,9e-07;
-,s 7; Indels
   institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (MAY-1991) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metázoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                 modified and this statement is not removed. entitles requires a license agreement (See hor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     154 AA
                                                                                                                                                                                                                                                                                                                                                                                             Score 97; DB
Pred. No. 1.9e
                                                                                                                                                                                                                                                                                                                                                                                                                             4; Mismatches
                                                                                                                                                                                                                                                                                                            INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21 APTSSPAKETQQHLEQLLLDLQVLLRGIDNY 51
                                                                                                                                                                                  PRINTS; PRO0265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SWART; SM00189; IL2; 1.
                                                                                                                                                  InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=T-cell;
MEDLINE=91274360; PubMed=2054386;
                                                                                                                                                                                                                                                                                                                                                            155 AA; 17632 MW;
                                                                                    EMBL; M22899; AAA41427.1; -.
                                                                                                                                                                                                                                                                                                                                                                                           61.4%;
ilarity 64.5%;
Conservative
                                                                                                                                                                                                                                                                                          20
155
23
126
                                                                                                    PIR; A31278; A31278.
PIR; A45882; A45882.
HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IISSUE=T-cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lefevre F.;
                                                                                                                                                                                                                                                                                                                                                                                                                               20;
   use by modified
                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                             DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IL2_PIG
                                                                                                                                                                                                                                                                         T-cell.
SIGNAL
                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
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   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIEFRATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        McKnight A.J., Mason D.W., Barclay A.N.; "Sequence of rat interleukin 2 and anomalous binding of a mouse interleukin 2 cDNA probe to rat MHC class II-associated invariant
                                                                                                                                                                                                                                                                                                                                                                          Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             .) (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-UTN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
N-LINKED (GLCNAC. .) (POT
KI -> FM (IN REF. 2).
F -> I (IN REF. 2).
H; 2E71E3BD8B9665EF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; 2b. ____Score 107; DB 1; Lenr No. 5.8e-09; 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      155 AA.
               SUBCELLULAR LOCATION: Secreted. SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 5.86
5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY
                                                                                                                                                                      or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APTSSSTKKTQLQLEHLLLKLQMILNGINN 31
                                                                                                                                                                                                                                     PIR; JN0698; JN0698.
HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                       Pfam; PF00715; IL2; 1.
PRIATYS; PR00265; INVERLEUKIN2.
PLODOM; PD001649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                          PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-89339608; Pubmed-2788130;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17653 MW;
                                                                                                                                                                                                    EMBL; L19402; AAA02865.1; -. EMBL; L25408; AAA51431.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67.78;
70.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3
150 1
154 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10116;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IL2 OR IL-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
DISULFID
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P17108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                             -cell.
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Euteleostomi; Sus.

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Gaps

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Length 155;

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IL2_ORCOR
097513;
                                                                                                                                                           CARBOHYD
                                                                                                                                                                       DISULFID
                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                 Query Match
                                                                                                                       T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Orcinus
                                                                                                                                    SIGNAL
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    DOR DOR KWEET THE FET THE SO
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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                               O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mai Z., Kousoulas K.G., Horohov D.W., Klei T.R.;
"Cross-species PCR cloning of gerbil (Meriones unguiculatus)
interleukin-2 cDNA and its expression in COS-7 cells.";
vet. Immunol. Immunopathol. 40:63-71(1994).
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTIEN IS REQUIRED FOR T-CELL
PROLIEBRATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meriones unguiculatus (Mongolian jird) (Mongolian gerbil).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
                                                                                                                                                                                                                  Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                    Length 154;
                                                                                                                                                                                                                                                                                                                                 Match 60.8%; Score 96; DB 1; Length 154 Local Similarity 64.5%; Pred. No. 2.6e-07; Local 20; Conservative 4; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                       F3B95E43D4A3D3E1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 155 AA.
                                                                                                                                                                                                                                                      BY SIMILARITY.
                                                                                                                                                                                                                                                                  INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                      2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                21 APTSSSTKNTKKQLEPLLLDLQLLLKEVKNY 51
                                                                                                                                          InterPro; IPR000779; Interleukin-2. Pfam; PF0015; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. Probom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                             PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-94174702; PubMed=8128610;
                                                             EMBL; X56750; CAA40071.1; -.
EMBL; X58428; CAA41330.1; -.
EMBL; AB041335; BAB16110.1; -.
PIR; S15473; S15473.
PIR; S16241; S16241.
HSSP; P01595; 3INK.
                                                                                                                                                                                                                                                                                                         17401 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X68779; CAA48679.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                 11.2; 1
                                                                                                                                                                                                                                                                                                       154 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=10047;
                                                                                                                                                                                                SMART; SM00189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IL2_MERUN
Q08081;
                                                                                                                                                                                                                                                                 CHAIN
CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Meriones
                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                            Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphinidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                       O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
D0F74AA1A381CDDA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interpro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00715; IL2; 1.
PRINTS; PR007165; INTERLEUKIN-2; 1.
SMART; SM00189; IL2; 1.
SMART; SM00189; IL2; 1.
Cytckine; Glycoprotein; Immune response; Signal; Growth factor; 1-cell.
                                                                                                                                                                                            Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
                                                                                                                                                                                                                                                                                                                                                                                     60.1%; Score 95; DB 1; Length 155; 64.5%; Pred. No. 3.7e-07; ative 2; Mismatches 9; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                            BY SIMILARITY
                                                                                                                                                                                                                                                                     INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                        2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 APTSSPAKEAQQYLEQLLLDLQQLLRGINNY 51
                    HSSP; P01585; 31NK.
INTERPLO; IPPR000779; Interleukin-2.
PFam; PP00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
PLODOM; PD005469; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                          17602 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF009570; AAD01426.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Orcinus orca (Killer whale).
                                                                                                                                                                                                                                                                                                                                                                                                                                      20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                       20
155
23
126
                                                                                                                                                                                                                                                              21
23
78
155 AA;
PIR; S33509; S33509.
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                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9733;
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8
59
125
128
145
149
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Matches 16; Conserv
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P05016;
   CONFLICT
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SEQUENCE
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       SHEEFFS
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                                                                                                                                                                    Gaps
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INTERLEUKIN-2.

BY SIMILARITY.

O'LINKED (GALNAC. . .) (BY SIMILARITY).

N'LINKED (GACNAC. . .) (POTENTIAL).

R -> K (IN REF. 2).
                                       . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eguus caballus (Horse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Eguus.
NCBI_TaxID=9796;
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                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIINE-94160538; PubMed-8116217; Vandergriff E.V., Horohov D.W.; Molecular cloning and expression of equine interleukin 2."; Vet. Immunol. Immunopathol. 39:395-406(1993).
                                                                                                                                Length 152;
                                                                                                                          55.7%; Score 88; DB 1; Length 152 llarity 58.1%; Pred. No. 4.1e-06; Conservative 6; Mismatches 7; Indels
1 20 BY SIMILARITY.
21 >152 INPERLEUKIN-2.
23 23 O-LINKED (GALNAC. . .) (B) 78 126 BY SIMILARITY.
152 152 154 MW; 308F91821ECCB764 CRC64;
                                                                                                                                                                                                                                                                                                                                149 AA
                                                                                                                                                                                                     2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                      EMBL; L06009; AAA20134.1; -.
EMBL; X69393; CAA49190.1; -.
PIR; 231391; S31391.
HSSP; P01585; 318K.
InterPro; IPR000779; Interleukin-2.
Pfam; PR00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
PRODOM; PD003649; Interleukin-2; 1.
SWART; SM00189; IL2; 1.
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                                                                                                                                                                                                                                                                                                                                                                    (Rel. 30, Created)
                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                 Local Similarity
es 18; Conserv
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SEQUENCE FROM N.A.
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01-NOV-1995 (
16-OCT-2001 (
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P37997;
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SEQUENCE
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CARBOHYD
CONFLICT
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                                                        DISULFID
                                                                                                                              Query Match
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SIGNAL
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Matches
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Anikeeva N.N., Vinogradova T.V., Votoshin O.N.;
Anikeeva N.N., Vinogradova T.V., Votoshin O.N.;
submitted (DEC-1989) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLIER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bos taurus (Bovine).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria: Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=86205870; PubMed=3486415;
Reeves R., Spies A.G., Nissen M.S., Buck C.D., Weinberg A.D.,
Barr P.J., Magnuson N.S., Magnuson J.A.;
"Molecular cloning of a functional bovine interleukin 2 cDNA.";
Proc. Natl. Acad. Sci. U.S.A. 83:3228-3232(1986).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13 AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                               Length 149;
S -> A (IN REF. 2).
I -> M (IN REF. 2).
N -> D (IN REF. 2).
F -> G (IN REF. 2).
I -> F (IN REF. 2).
L -> M (IN REF. 2).
W, 051BBBC47A0114FC CRC64;
                                                                                                                                                                                                                                                                                                              . 1.1e-05;
                                                                                                                                                                                                                                                                    53.8%; Score 85; DB 1;
53.3%; Pred. No. 1.1e-05
tive 8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                  21 APTSSSKRETQQQLKQLQMDLKLLLEGVNN 50
                                                                                                                                                                                                                                                                                                                                                                                                            2 APTSSSTKKTQLQLEHLLLKLQMILNGINN 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1.
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EMBL; X17201; CAA35062.1; -.
EMBL; X2687; CAA36912.1; -.
HSSP; PO1585; 31NK.
                                                                                                                                                                                                             WW.
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128
145
17086 M
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                                                                                                                                                                                                                                                                                                                                                 Conservative
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CARBOHYD
DISULFID
CONFLICT
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CONFLICT
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Submitted (DEC-1996) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                       O-LINKED (GALNAC. .) (BY SIMILARITY)
V -> A (IN REF. 2).
816667DFEA052EDF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Capra hircus (Goat).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                  Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-1994 (Rel. 29, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                         45.6%; Score 72; DB 1; Length 155; 50.0%; Pred. No. 0.001; ive 6; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          155 AA.
                                                                                                                                                                           INTERLEUKIN-2.
BY SIMILARITY.
                                                                                                                                                      BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                              21 APTSSTGNTMKEVKSLLLDLQLLLEKVKN 50
                                                                                                                                                                                                                                                                                                                                                                                                                            2 APTSSSTKKTQLQLEHLLLKLQMILNGINN 31
                                              SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
PR00265; INTERLEUKINZ.
PD003649; Interleukin-2; 1.
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ProDom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17627 MW;
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                                                                                                                                                                                                                                                                                                                                                 Local Similaricy
nes 15; Conservative
                                                                                                                                                                                                                                                                             AA;
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Rimstad E.;
                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                     DISULFID
                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                       T-cell.
SIGNAL
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                                                                                                                                SMDNIKR
                      O-LINKED (GALNAC.
BY SIMILARITY.
                                                                                                                            YMASLKG -> SMDNIKE
Q -> L (IN REF. 2)
T -> I (IN REF. 2)
                                                                                                                                                                                                     Score 72; DB 1;
Pred. No. 0.001;
SIMILARITY
                                                                                                                                                                                                                               6; Mismatches
           INTERLEUKIN-2
                                                      cch completed: February 20, 2003, 10:05:24 time : 8.11111 secs
                                                                                                                                                                                                                                                                      21 APTSSSTGNTMKEVKSLLLDLQLLLEKVKN 50
                                                                                                                                                                                                                                                     2 APTSSSTKKTQLQLEHLLLKLQMILNGINN 31
                                              RMO ->
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                                                                                                                                                                                17703 MW;
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                                                                                                                                                                                                                               Conservative
                                                                                                                                                                              155 AA;
                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 15; Conserv
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P70291 mus musculu 999488 mus musculu 970294 mus musculu P7029 mus musculu P7029 mus musculu 97029 mus musculu 080437 coxiella bu 094045 srabidopsis 029138 trichechus 08116 musculu 082475 arabidopsis 0816 streptomyce 082517 helicobacte 092628 helicobacte 09362 helicobacte 09362 helicobacte 09362 helicobacte 09362 helicobacte 094696 streptomyce 094696 streptomyce 094696 srabidopsis 00536 brassica na 095840 bacillus ha 095917 strabidopsis 005376 brassica na 095840 listeria in 069192 listeria mo 093890 listeria mo 093890 listeria mo 069192 listeria mo 069192 listeria mo 069192 listeria mo 069192 listeria mo
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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SEQUENCE 150 AA; 17312 MW; BF25860F8436ACE5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001 (TrEMBLrel: 17, Created)
01-JUN-2001 (TrEMBLrel: 17, Last sequence update)
01-DEC-2001 (TrEMBLrel: 19, Last annotation update)
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P70293
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Q69192
   Interleukin-2 (Fragment).
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Matches 30; Conservative
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Homo sapiens (Human)
NCBI_TaxID=9606;
Query Match
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09C001;
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09xs38 papio hamad
01s169 homo sapien
01634 homo sapien
09xt83 halichoerus
09bg74 canis famil
09tv12 canis famil
0923t2 sigmodon hi
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088210 cavia porce
Q99144 ovis aries
099183 capra hirçu
Q95kp3 bubalus bub
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Q9ucf5 homo sapien
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264.918 Million cell updates/sec
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                                                                                                         February 20, 2003, 10:03:07; Search time 24.8889 Seconds
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             GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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1 MAPISSSTKKTQLQLEHLLLKLQMILNGINNY 32
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Gapop 10.0 , Gapext 0.5
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Perfect score:
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ProDom; PD003649; Interleukin-2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Local Similarity 90.3
Matches 28; Conservative
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016334
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"Expression of human IL-2 from gene transferred mouse melanoma cells and its effect on the growth of mouse melanoma.";
Chung-Hua Min Kuo Wel Sheng Wu Chi Mien I Hsueh Tsa Chih
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A., Moreno A.,
Patarroyo M.E.,
                                                                                                                                                                                                                                                             Actus lemurinus (Northern gray-necked night monkey),
Actus nancymaae (Owl monkey),
Actus nigriceps (Dlack headed night monkey), and
Actus vociferans (noisy night monkey),
Eukaryota; Metazca; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_raxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xu L.;
Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
EMBL; U25676; AAA70092.1; -.
HSSP; P01585; 31NR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PSO0424; INTERLEUKIN_2; 1,
SEQUENCE 154 AA; 17675 MW; AB752ABBADA96469 CRC64;
                                                                                             01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
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Last annotation update)
                                  154 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cercopithecinae; Papio.
NCBL_TaxID-9557, 43147, 37293, 57175, 57176;
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ProDom; PD003649; Interleukin-2; 1.
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                                  PRT;
                                                                                                                                                                                                                                     Papio hamadryas (Hamadryas baboon),
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Pfam; PF00715; IL2; 1.
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EMBL; U88362; AAD41537.1; -.
HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; U88361; AAD41535.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U88365; AAD41538.1; -. EMBL; U88364; AAD41534.1; -.
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                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human)
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Matches 29; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted
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Q13169;
                               09XS38
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988380
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MEDLINE-99221046; PubMed-10206205;
St-Laurent G., Beliveau C., Archambault D.;
"Molecular cloning and phylogenetic analysis of beluga whale
(Delphinapterus leucas) and grey seal (Halichoerus grypus) interleukin
2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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Halichoerus grypus (Gray seal).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Halichoerus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-95239150; PubMed-7722480;
Elzenberg O., Faber-Elman A., Lotan M., Schwartz M.;
"Interleukin-2 transcripts in human and rodent brains: possible
expression by astrocytes.";
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                                                                                                                                                                                       Query Match 85.8%; Score 135.5; DB 4; Length 156; Best Local Similarity 88.2%; Pred. No. 2.3e-12; Matches 30; Conservative 0; Mismatches 1; Indels 3.
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SMART; SM00189; ILL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 156 AA; 18002 MW; 8E0452D43B336389 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NON_TER 1 1 SEQUENCE 139 AA; 15986 MW; 731FBA406D0C63C5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84.8%; Score 134; DB 4; 90.3%; Pred. No. 3.4e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           139 AA
                                                                                                                                                                                                                                                                                                                                                                                        2 APTSSS---TKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                          21 APTSSSTKKTKKTQLQLEHLLLDLQMILNGINNY 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     155
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          expression by astrocytes.";
J. Neurochem. 64:1928-1936(1995).
EMBL; 87/885; AAD14264.1;
HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
PRINTS; PR00265; INTERLEUKIN2.
Probom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC DOT DE PORT REPRESENTATION OF THE PRINCE OF THE PRINCE
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Gaps
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EMBL, AR398549; AAK94012. i. "InterPro; IPR000779; Interleukin-2. Ffam. PR00155; IL2.".

ProDom; PD003649; Interleukin-2; I. PROSITE; PS00424; INTERLEUKIN-2; UNKNOWN_1.

SEQUENCE 155 AA: 17627 MW; ACADEA865E993291 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sigmodon hispidus (Hispid cotton rat).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
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                                                                                                                                                                                                                                                                 Length 79;
       German A.J., Helps C.R., Harley R., Hall E.J., Day M.J., "Cloning and sequencing of canine IL-2.";
Submitted (SEP-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AF091131; AAD46989.1;
HSSP; PDL585; IIRL.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                3; Indels
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                                                                                                                                                                                                                            83079BF8F8A659BD CRC64;
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01-A0G-1998 (TrEMBLrel. 07, Last sequence update)
01-AUG-1998 (TrEMBLrel. 18, Last annotation update)
Interleukin-2 (Fragment).
Mesocricetus auratus (Golden hamster).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TrEMBLrel. 19, Last sequence update) (TrEMBLrel. 20, Last annotation update)
                                                                                                                                                                                                                                                             Score 107; DB 6;
Pred. No. 2.1e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   155 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              138 AA
                                                                                                                                                                                                                                                                                               6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21 APTSSSTKETQQHLEQLLLDLQVLLRGIKNY 51
                                                                                                                                                                                                                                                                                                                                4 TSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                       7 TSSSTKETEQQMEQLLLDLQLLLNGVNY 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-2001 (TrEMBLrel. 19, Created)
                                                                                                                     PRINTS, PRO0265; INTERLEUKINZ.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; ILZ; 1.
                                                                                                                                                                           PROSITE; PS00424; INTERLEUKIN_2; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
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                                                                                                                                                                                                                                                            67.78;
69.08;
                                                                                                                                                                                                            79 79
79 AA; 9087 MW;
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nes 22; Conserva
                                                                                                                                                                                                                                                                           Local Similarity
ses 20; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interleukin 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-2001
01-MAR-2002
                                                                                                                                                                                           NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                             Query Match
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Matches
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"Expression of canine interleukin-2 mRNA in concanavalin A-stimulated canine lymphocytes.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AF331117, AAK01437.1;
HSSP, P01585; IRL.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2;
Probom; PR003649; Interleukin-2;
Probom; PR003649; Interleukin-2; I.
SMART; SM00189; IL2; I.
                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ents idmitatis (Dog).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
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                                                                                                                                                                                           Length 155;
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Vet. Immunol. Immunopathol. 67:385-394(1999).
EMBL; AF072871; AAD40848.1; -.
HSSP; P01585; 31NK.
InterPro; IRR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
PTODOM: P0003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 155 AA; 17860 MW; F18F449AC672241A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22A893F79DA2AE47 CRC64;
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01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                           DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6;
                                                                                                                                                                                       Score 108.5; DB 6;
Pred. No. 2.4e-08;
5; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 107.5; DB 6
Pred. No. 1.5e-08;
5; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                               66 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 AP-TSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                Created)
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                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                       68.7%;
71.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     68.0%;
68.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66 AA; 7389 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY 2000 (TrEMBLrel. 13, 01-MAY 2000 (TrEMBLrel. 13, 01-OCT-2001 (TrEMBLrel. 18, 1nterleukin-2 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                               01-JUN-2001 (TrEMBLrel. 17,
                                                                                                                                                                           Query Match
Best Local Similarity 71,9%
--hos 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interleukin 2 (Fragment).
Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID-9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-BLOOD;
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NON_TER
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Q9TV12
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MEDLINE-99221046; PubMed-10206205;
St-Laurent G., Belivaau C., Archambault D.;
St-Laurent G. Belivaau C., Archambault D.;
Molecular cloning and phylogenetic analysis of beluga whale
[Delphinapterus leucas] and grey seal (Halichoerus grypus) interleukin
2.";
Wet. Immunol. Immunopathol. 67:385-394(1999).
HSSP; PO1585; JINK.
                                             Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Delphinapterus leucas (Beluga whale).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti;
                                                                                                                                                                                                                                                      두
                                                                                                                                                                                            MEDLINE-93289963; PubMed-8512072;
Mullner S., Karbe-Thonges B., Tripler D.;
Charge heterogeneity of insulin fusion proteins expressed
Escherichia coli is not due to proteolytic degradation.";
Anal. Biochem. 210:366-373(1993).
SEQUENCE 23 AA: 2637 MW; 40B64C6875CE021F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 49.4%; Score 78; DB 6; Length 154; Best Local Similarity 51.6%; Pred. No. 0.00088; Matches 16; Conservative 7; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                         53.2%; Score 84; DB 4; Length 23; 85.7%; Pred. No. 1.7e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                            3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR00779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
Prodom, PD003649; Interleukin-2; 1.
SMART; SMO0189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17652 MW; 428BD3D41D04F172 CRC64;
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
Interleukin 2 precursor:
Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
     01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 TSSSTKKTQLQLEHLLLKLQM 24
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                      Interleukin 2 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 85.7
Matches 18; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
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                                                                                                                          NCBI_TaxID=9606
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                                                                                                                                                                       SEQUENCE
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Q9XT84;
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Q9XT84
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AC 08821
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DT 01-CO'
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                 MEDLINE-98234044; PubMed-9573100;
Melby P.C., Tryon V.V., Chandrasekar B., Freeman G.L.;
"Cloning of Syrian hamster (Mesocricetus auratus) cytckine cDNAs and analysis of cytckine mRNA expression in experimental visceral leishmaniasis.";
Infect. Immun. 66:2135-2142(1998).
EMBL; AF046212; AAC40097.1; -.
InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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TISSUE-SPLEEN, AND LYMPH NODE;
MEDLINE-20304414; PubMed-10843729;
Perkins H.D., van Leeuwen B.H., Hardy C.M., Kerr P.J.;
Perkins H.D., van Leeuwen B.H., Hardy C.M., Kerr P.J.;
Perkins H.D.;
European rabbit (Oryctolagus cuniculus).";
Cytokine 12:555-565(2000).
EMBL; API69168; AAF86652.1; -.
EMBL; API69168; AAF86652.1; -.
EMBL; PO1585; 3INK.
InterPro; IPRO00779; Interleukin-2.
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Walkaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
NCBI_TaxID=9986;
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Best Local Similarity 71.0%; Pred. No. 1.4e-07;
Matches 22; Conservative 2; Mismatches 7; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 133 AA; 14748 MW; 0D54758C190B5655 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                    138 AA; 15739 MW; 351032995B670779 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Interleukin 2 variant IL2delta2.
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(TrEMBLrel. 13, Last sequence update)
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                                                                                                                                                                                                                                                                   PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
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01-MAY-2000 (
01-MAY-2000 (
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SEQUENCE
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                                 RESULT 15
Q9GL83
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Luehken G., Prinzenberg E.-M., Hlendleder S., Erhardt G.;
"A single strand conformation polymorphism in the ovine interleukin 2
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Vors aries (Sheep).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Cavildae; Cavia.
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47.5%; Score 75; DB 11; Length 152;
Best Local Similarity 56.7%; Pred. No. 0.0024;
Matches 17; Conservative 5; Mismatches 8; Indels
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Pred. No. 0.0031;
6; Mismatches 9; Indels
                                                                                                                                                                        TISSUE=SPLEEN;
Takeyoshi M., Iwata H., Inoue T.;
Takeyoshi M., Iwata H., Inoue T.;
"Guintea pig Interleukin 2(IL-2) precursor.";
Submitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AB010093; BAA31346.1; --
HSSP; P01585; 11RL.

        SIGNAL
        1
        20
        POTENTIAL.

        CHAIN
        21
        152
        INTERLEUKIN 2.

        SEQUENCE
        152 Aa;
        17271 MW;
        CA7AC08C1B8DD1FA CRC64;

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01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-UNN-2002 (TrEMBLrel. 21, Last annotation update)
Interleukin 2 precursor (Fragment).
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INTERLEUKIN 2.
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J. Anim. Sci. 0:0-0(2000).
EMBL; AF215687; AAG43986.1; -
EMBL; AF213883; AAG35709.1; -
HSSP; P01585; 11RL.
ILCEPPO; IPRO00779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                   Interpro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. Procom: PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1.
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ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
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                                                                   NCBI_TaxID=10141;
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                                                                                                                                                                     Capra hircus (Goat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

Ying Q.H., Li X.R., Pan J.Y.;

"Cloning of the goat IL-2 gene and its expression in E.coli.";

Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AF307018; AAG28783.1; -.
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PRINTS; PR00265; INTERLEUKIN2.
PRODOM; P0003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
PROSITE; P8000424; INTERLEUKIN_2; 1.
SEQUENCE 155 AA; 17605 MW; EEEB2DE18F5469AA CRC64;
                                                                          Last sequence update)
Last annotation update)
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                                                  Created)
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  PRT;
                                             01-MAR 2001 (TrEMBLrel. 16, 01-WAR-2001 (TrEMBLrel. 16, 01-DEC-2001 (TrEMBLrel. 19, Interleukin 2.
PRELIMINARY;
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us-09-776-781-6.rapb

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FEATURE:
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Sequence 11373, A
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                                                                                                                             February 20, 2003, 10:05:07; Search time 8.12698 Seconds (without alignments) 100.599 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd
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9 US-10-051-657A-1
10 US-09-766-543-8
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10 US-09-923-246-111
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10 US-09-933-525-2
10 US-09-835-147-8
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10 US-09-835-147-8
10 US-09-835-147-8
10 US-09-831-147-8
10 US-09-815-242-11373
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10 US-09-796-149-5
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1 MAPTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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Listing first 45 summaries
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Match Length
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Sequence 5, Application US/09822698A

| Sequence 5, Application US/09822698A
| Sequence 5, Application US/09822698A
| Sequence 5, Application US/09822698A
| Sequence 5, Application US/0982698A
| Sequence 5, Application US/098269A
| APPLICANT: Honderikx, Maria P.G.
| STILE REPRENCE: DYX-015.1 US
| CURRENT APPLICATION NUMBER: US/09/822,698A
| CURRENT APPLICATION NUMBER: US 09/538,913
| PRIOR FILING DATE: 2000-03-30
| NUMBER OF SEQ ID NOS: 112
| SEQ ID NOS: 112
| SEQ ID NO 5
| LENGTH: 381
 Sequence 150, App Sequence 15, Appl Sequence 15, Appl Sequence 17, Appl Sequence 10, Appl Sequence 11, Appl Sequence 12, Appl Sequence 29, Appl Sequence 26, Appl Sequence 7, Appl Sequence 95, Appl Sequence 93, Appl Sequence 93, Appl Sequence 93, Appl Sequence 87, Appl Sequence 263, Appl Seque
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Sequence 1589, Ap
Sequence 13935, A
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Sequence 1, Application US/10051657A
Patent No. US20020164300A1
GENERAL INFORMATION:
APPLICANT: Chan, Sham-Yuen
APPLICANT: Kelly, Ruth
TITLE OF INVENTION: Interleukin-2 Mutein Expressed from Mammalian Cells
FILE REFERENCE: MSB-7257
CURRENT APPLICATION NUMBER: US/10/051,657A
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0 US-09-881-752A-150

0 US-09-864-761-36104

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0 US-09-895-072-15

0 US-09-896-552-1

0 US-09-866-552-1

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US-10-012-896-1005

US-10-012-896-1005

US-10-047-676A-7

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US-09-815-242-13935
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Best Local Similarity 93.8%; Pred. No. 6.2e-15;
Matches 30; Conservative 1; Mismatches 1;
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   RESULT 2
US-10-051-657A-1
 TYPE: PRT
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APPLICANT: Johnston, Janet V.
APPLICANT: Nelson, Andrew J.
APPLICANT: Nelson, Andrew J.
APPLICANT: Nelson, Angela K.
APPLICANT: Hammond, Angela K.
APPLICANT: Hammond, Angela K.
TITLE OF INVENTION: NOVEL CYTOKINE ZALPHAll LIGAND
FILE REFERENCE: 99-16
CURRENT PELLING DATE: ARALLER FARLIER APPLICATION NUMBER: US/09/923,246
CURRENT FILING DATE: EARLIER FILING DATE: 1000-03-09
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/123,904
PRIOR APPLICATION NUMBER: EARLIER PELLING DATE: 1999-03-11
FRIOR APPLICATION NUMBER: EARLIER PILING DATE: 1999-03-11
FRIOR PILING DATE: EARLIER FILING DATE: 1999-07-01
NUMBER OF SEQ ID NOS: 115
SOFTWARE: FastSEQ for Windows Version 3.0
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; Patent No. US20020041865A1
; GENERAL INFORMATION:
    APPLICANT: Austin, Richard
; APPLICANT: Kwok, Cheuk S.
    TITLE OF INVENTION: METHODS FOR TREATING TUMORS
; FILE REFERENCE: PP016/79.002
; CURRENT FILING DATE: 2000-01-19
; PRIOR PILICATION NUMBER: 60/177,258
; PRIOR FILING DATE: 2000-01-20
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93.0%; Score 147; DB 10; 96.8%; Pred. No. 4.1e-15;
  93.0%; Score 147; DB 10;
96.8%; Pred. No. 4.1e-15;
11ve 0; Mismatches 1;
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                                                                                            2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                    21 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21 APTSSSTKKTOLOLEHLLLDLOMILNGINNY 51
                                                                                                                                                                                                                                                         ; Sequence 111, Application US/09923246
; Patent No. US20020128446A1
                                                                                                                                                                                                                                                                                                                      APPLICANT: No. US20020128446alak,
APPLICANT: Presnell, Scott R.
APPLICANT: Sprecher, Cindy A.
APPLICANT: Foster, Donald C.
APPLICANT: Holly, Richard D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                               30; Conservative
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                          Best Local Similarity
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                                                                                                                                                                                                                RESULT 5
US-09-923-246-111
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LENGTH: 153
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    Query Match
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                                               Matches
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Patent No. US20020058795A1

GENERAL INFORMATION:

FALLE INFORMATION:

TITLE OF INVENTION: HYDROPHOBIC GLYCOSYLAMINE DERIVATIVES, COMPOSITIONS, AND METHODS

FILE REPERBENCE: 2377023

CURRENT APPLICATION NUMBER: US/09/149,721

CURRENT FILING DATE: 1998-09-08

NUMBER OF SEQ ID NOS: 3

SOFTWARE: MACROSOFT WORD

SOFTWARE: MACROSOFT WORD

SEQ ID NOS: 3

SOFTWARE: MACROSOFT WORD
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; OTHER INFORMATION: Description of Artificial Sequence: human IL-2
US-09-766-543-8
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                                                                                                                                                                                                           Length 133;
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                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-766-543-8

Sequence 8, Application US/09766543

Sequence 8, Application US/09766543

Sequence 8, Application US/09766543

Sequence 10. US20020041865A1

SEMERAL INFORMATION:

APPLICANT: Austin, Richard

APPLICANT: Rowk, Cheuk S.

TITLE OF INVENTION: METHODS FOR TREATING TUMORS

FILE REFERENCE: PPD1679,002

CURRENT APPLICATION NUMBER: 2000-01-19

PRIOR FILING DATE: 2000-01-19

PRIOR FILING DATE: 2000-01-20

NUMBER OF SEQ ID NOS: 14

SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                           Score 147; DB 9;
Pred. No. 3.5e-15;
                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                                                 2 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                         1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
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  2002-04-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                       Query Match 93.0%;
Best Local Similarity 96.8%;
Matches 30; Conservative
                     NUMBER OF SEQ ID NOS: 1
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                         Conservative
                                                                                                                                    ; ORGANISM: Homo saptens
US-10-051-657A-1
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ORGANISM: Homo Sapiens
  CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 30; Conserv
                                                                  SEQ ID NO 1
LENGTH: 133
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                                                                                                               TYPE: PRT
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Price, Virginia L.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment
FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT APPLICATION NUMBER: US 60/104,585
PRIOR PLIING DATE: 1998-10-16
PRIOR PLIING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
SOFTWARE: Patentin Ver: 2.0
SSETURNE: Patentin Ver: 2.0
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Patent No. US20020277A1
GENERAL INFORMATION:
APPLICANT: Maliazewski, Charles R.
APPLICANT: Maliazewski, Charles R.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
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                                                                         Length 43;
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                                                                         DB 10;
. 0.035;
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100.0%; Pred. No. 0.61;
tive 0; Mismatches 0
                                                                       36.1%; Score 57; DB 100.0%; Pred. No. 0.0
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CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR FILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLICATION NUMBER: US 60/149,010
PRIOR PLILING DATE: 1999-08-13
PRIOR PLILING DATE: 1999-08-13
; OTHER INFORMATION: construct of human CD39 US-09-835-147-11
                                                                                                                                                                                                                                                                                                                          Sequence 6, Application US/09835147 Patent No. US20020002277A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence
                                                                     Query Match 36.1
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 36.1
Best Local Similarity 100.
Matches 12; Conservative
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                                                                                                                                                                                         25 APTSSSTKKTQL 36
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OTHER INFORMATION:
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US-09-835-147-6
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APPLICANT: Maliszewski, Charles R.
APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Grape III, Richard B.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PLILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
                                                                                               Gaps
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APPLICANT: Ben-Yehudah, Ahmi
APPLICANT: Agailan, Rami
APPLICANT: Agailan, Rami
APPLICANT: Belotstotsky, Ruth
APPLICANT: Lorberboum-Galski, Haya
TITLE OF INVENTION: CHIMERIC PROTEINS WITH CELL-TARGETING
TITLE OF INVENTION: SPECIFICITY AND APOPTOSIS-INDUCING ACTIVITIES
FILE REFERENCE: 9457-009-999
CURRENT APPLICATION NUMBER: US/09/033,525
CURRENT PILING DATE: 1998-03-02
NUMBER OF SEQ ID NOS: 10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 331;
                                                  Length 133;
                                                                                               Indels
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Pred. No. 4.2e-14;
0; Mismatches 1;
                                             90.5%; Score 143; DB 10;
96.7%; Pred. No. 1.4e-14;
tive 0; Mismatches 1;
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                                                                                                                                       3 PTSSSTKKTQLQLEHLLLKLQMILNGINNY 32
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; Sequence 11, Application US/09835147
; Patent No. US20020002277A1
                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09033525
Patent No. US200200090374A1
GENERAL INFORMATION:
APPLICANT: Yarkoni, Shai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90.5%;
ilarity 96.7%;
Conservative
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SOFTWARE: PatentIn Ver. 2.0
                                             Query Match 90.55
Best Local Similarity 96.77
Matches 29; Conservative
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Best Local Similarity
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LENGTH: 331
TYPE: PRT
US-09-766-543-14
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; ORGANISM: Helicobacter pylori
US-09-881-752A-280
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US-09-815-242-11373
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ilarity 42.9%;
Conservative
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Best Local Similarity 42.9%;
Matches 12; Conservative
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Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Maliszewski, Charles R.
APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Steven D.
ITLE GPERENCE: 2979-05.
FILE REPERENCE: 2979-05.
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR PILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SSOFTWARE: PALCHAIN VET. 2.0
                                                                                                                                                                                                                                                                                                             Gaps
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US-09-835-147-26
                                                                                                                                                                        CTHER INFORMATION: Description of Artificial Sequence: Fusion COTHER INFORMATION: construct of human CD39 US-09-835-147-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36.1%; Score 57; DB 10; Length 487; 100.0%; Pred. No. 0.66; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                DB 10; Length 478; 0.65;
                                                                                                                                                                                                                                                                                                          0; Indels
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Patent No. US20020115078A1
GENERAL INFORMATION:
APPLICANT: Kleanthous, Harold
APPLICANT: Al-Garawi, Amal
APPLICANT: Tomb, Jean-Francois
APPLICANT: Tomb, Jean-Francois
APPLICANT: Oomen, Raymond P.
TITLE OF INVENTION: Identification of Polynucleotides
                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                             Query Match 36.1%; Score 57; Best Local Similarity 100.0%; Pred. No. Matches 12; Conservative 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 26, Application US/09835147
Patent No. US20020002277A1
GENERAL INFORMATION:
                                                                                                           TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Artificial Sequence
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 36.1
Best Local Similarity 100.
Matches 12; Conservative
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                                                                                       LENGTH: 478
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LENGTH: 487
                                                                   SEO ID NO 8
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TITLE OF INVENTION: Encoding No. US20020115078Alel Helicobacter Polypeptides in tarte of INVENTION: Genome File Reference: 06132/041002
CURRENT PAPLICATION NUMBER: US/09/881,752A
CURRENT FILING DATE: 2001-06-15
PRIOR APPLICATION NUMBER: US 08/833,457
PRIOR FILING DATE: 1997-04-01
NUMBER OF SEQ ID NOS: 370
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 280
LENGTH: 751
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Pred. No. 11;
5; Mismatches 11; Indels
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APPLICANT: Zyskind, Judith W.
APPLICANT: Wall, Daniel
APPLICANT: Trand, John D.
APPLICANT: Tanamoto, Robert T.
APPLICANT: Xu, H. Howard
TITLE OF INVENTION: Identification of Essential Genes in
TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITRA.011A
CURRENT APPLICANT: 08 Prokaryotes
FILE REFERENCE: ELITRA.011A
CURRENT APPLICATION NUMBER: US/09/815,242
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SOFTWARE: FastSEQ for Windows Version 4.0
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 509 SESOKKDFIKLFGKILKLENILNSFENF 536
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PRIOR FILING DATE: 2000-03-21
PRIOR PELING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206, 848
PRIOR PELING DATE: 2000-05-23
PRIOR PELING DATE: 2000-10-23
PRIOR PELING DATE: 2000-10-23
PRIOR PELING DATE: 2000-11-27
PRIOR PELING DATE: 2000-11-27
PRIOR PELING DATE: 2000-11-27
PRIOR PELING DATE: 2000-11-27
PRIOR FILING DATE: 2000-11-27
PRIOR PELING DATE: 2000-11-27
PRIOR PELING DATE: 2000-12-27
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR APPLICATION NUMBER: 60/253,931
PRIOR FILING DATE: 2001-12-22
PRIOR FILING DATE: 2001-12-22
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Patent No. US20020061569A1
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GENERAL INFORMATION:

GENERAL INFORMATION:

TITLE OF INVENTION: VASOPERMEABILITY ENHANCING PEPTIDE FRAGMENT OF HUMAN INTERLEUKIN-
FILE REFERENCE: 1920-32502-09801297
FILE REFERENCE: 1920-32502-09801297
CURRENT PAPLICATION NUMBER: US/10/142,120
CURRENT PAPLICATION NUMBER: US/40/143,061
PRIOR FILING DATE: 1999-11-18
PRIOR FILING DATE: 1996-12-23
SOFTWARE: PATENTIN UNDER: US/806,121
SEQ ID NO 1
SEQ ID 
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Pred. No. 8.4;
4; Mismatches 2; Indels
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Pred. No. 0.33;
1; Mismatches 0; Indels
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US-09-796-149-5
Sequence 5, Application US/09796149
Sequence 5, Application US/09796149
Sequence 5, Application US/09796149
Sequence 5, Application US/09796149
GENERAL INFORMATION:
APPLICANT: Univ. of Southern California
TITLE OF INVENTION: Mutated cyclin G1 protein
FILE REFERENCE: 4.31342A/USC
CURRENT APPLICATION NUMBER: US/09/796,149
CURRENT FILING DATE: 2001-02-28
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.1
SEQ ID NO 5
LENGTH: 226
TYPE: PATE: PATE: Homo sapiens
US-09-796-149-5
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Patent No. US20020164302A1
GENERAL INFORMATION:
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60.0%;
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Best Local Similarity 90.0%;
Matches 9; Conservative
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Best Local Similarity 60.0
Matches 9; Conservative
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82 TKKQVLRMEHLVLKV 96
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US-10-142-120-1
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Interleukin-2 muta
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Interleukin-1 muta
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Antigenic fragment
Plasmid pILOT135-8
                 Interleukin-2
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AAR48245
AAR95433
AAR68899
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AAR10906
AAR10908
AAR10908
AAR10904
AAP50217
AAP50217
AAR10901
AAR10903
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12-SEP-2000; 2000US-0660465
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Mazie J;
   ABB79535
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Interleukin-2 pept
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137.619 Million cell updates/sec
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$\times_{101002} \times_{101002} \times_{101022} \times_{101002} \times_{101022} \times_{1010022} \times_{101022} \times_{1010222} \times_{1010222} \times_{1010222} \times_{10102222} \times_{10102222222222222222222222222
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            GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd
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1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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Maximum Match 100%
Listing first 45 summaries
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ABB79534
ABB79534
AAY53828
AAY53828
AAP70573
AAY539301
AAY1015
AAK06838
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Gapop 10.0 , Gapext 0.5
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length: 2000000000
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Result

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AAY53825 standard; Protein; 133 AA.
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                                                                                                                                       The present sequence is the protein sequence for IP131 D20K. The sequence is based on the human interleukin-2 (IL-2) peptide IP130 (See ABM84292) by the addition of a C-terminal Tyr residue, and substitution of the native Asp-20 residue by Lys. Asp-20 is located in a region of IL-2 that directly influences interaction of the cytokine with its receptor (IL-2R). An antibody that binds to the peptide is claimed, and is preferably an antibody produced by hybridoma H2-8 (CNCM No. I-238). A claimed method of detecting the presence or activity of involves contacting a sample with the peptide. A claimed method for inducing IL-2R activity in a patient comprises administering IP131 D20K to the patient. A vector containing DNA encoding the peptide is claimed, and is used in a claimed method for treating a patient deficient in IL-2 activity. Also claimed method for treating a patient deficient in IL-2 activity. Also claimed method for treating a patient deficient in IL-2 activity. Comprises administering method acid substitutions, i.e. change of non-polar R-groups by other uncharged polar R-groups by other uncharged polar R-groups by Lys, Asp by Glu, Thr by Ser, or Asn by Glu, and vice versa. The peptide induces SHC phosphorylation or induction of the SHC/MARK pathway. Antibodies specific for the formal or and the section of the se
                                                New peptides derived from Interleukin 2 designated IP130 and IP131 are useful as therapeutic agents in the treatment of patients deficient in LL-2 activity -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immune reactions such as graft rejection, or autoimmune disorders such as rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: The present sequence is not shown in the specification but
is derived from the IL131 sequence given in page 2 (see ABB79534)
by removal of the N-terminal Met residue.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _____wild-type Asp substituted by Lys"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 153; DB 23; 100.0%; Pred. No. 1.2e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Interleukin-2 peptide IP131 (D20K).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB79534 standard; Peptide; 32 AA.
                                                                                                                 Claim 18; Page -; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-FEB-2001; 2001US-0776781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-SEP-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 31; Conservative
WPI; 2002-546505/58.
N-PSDB; ABN84296.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2002044935-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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The present sequence is the protein sequence for IP131 D20K. The sequence is based on the human interleukin-2 (IL-2) peptide IP130 (see ABN8422) by the addition of a C-terminal Tyr residue, and substitution of the native Asp-20 residue by Lys. Asp-20 is located in a region of IL-2 that directly influences interaction of the cytokine with its receptor (IL-2R). An antibody that binds to the cytokine with its receptor (IL-2R). An antibody produced by hybridoma H2-8 (CNCM No. 1-2338). A claimed method of detecting the presence or activity of involves contacting a sample with IP131 D20K, and detecting whether binding occurs. A claimed method for inhibiting IL-2R activity involves contacting IL-2R with the peptide. A claimed method for inducing IL-2 activity in a patient containing DNA encoding the peptide is claimed, and is used in a claimed method for treating a patient deficient in IL-2 activity. Containing conservative amino acid substitutions, i.e. change of non-polar R-groups but other non-polar R-groups, containing conservative amino acid substitutions, i.e. change of non-polar R-groups by other uncharged polar R-groups by claimed are versa. The peptide induces SHC phosphorylation or induction of Arg by Lys, Asp by Glu, Thr by Ser, or Asn by Glu, and vice versa. The peptide induces SHC phosphorylation or peptide are useful for treatment or prevention of undesirable immune reactions such as graff rejection, or autoimmune disorders such as rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New peptides derived from Interleukin 2 designated IP130 and IP131 are useful as therapeutic agents in the treatment of patients deficient in LL-2 activity.
                                                                                                                                                                                                                                   Alzari P;
                                                                                                                                                                                                                                   Rose T,
                                                                                                                                                                                                                          Moreau J, Goldberg M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 18; Page 2; 53pp; English.
16-JUL-1998; 98US-0116594, 12-SEP-2000; 2000US-0660465.
                                                                                                                                                                                                                          Theze J, Eckenberg R, Mazie J;
                                                                                                                               (INSP ) INST PASTEUR.
                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-546505/58.
N-PSDB; ABN84295.
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Length 32; Indels 100.0%; Score 153; DB 23; 100.0%; Pred. No. 1.2e-14; ö ; Pred. No. 1.7 0; Mismatches Query Match
Best Local Similarity 100.0

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Gaps

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13-MAR-2000 (first entry)

Amino acid sequence of human interleukin-2 (IL-2) mutein D20K.

Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma; malignant melanoma; autoimmune disease; infectious disease; immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;

Lembach KJ, Wetzel GD;

Jesmok G,

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AAY53822-66 represent human interleukin-2 (IL-2) muteins, where human IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2, when used in cancer treatment, has adverse side effects. The coxicities associated with IL-2 therapy include severe fever, nausea, vomiting, vascular leak and serious hypotension. The muteins described in this invention have reduced toxicity and are better tolerated. It is the mediation of IL-2 through natural killer cells which causes the citiacy is mediated by the direct activation of toxicity whereas the efficacy is mediated by the direct activation of cells. The muteins preferentially activate T cells which causes the colls. IL-2 muteins may be used for treating a mammal afflicted with an IL-2 treatable condition. The condition may be one of the following:

HIV, cancer including renal carcinoma and malignant melanoma, autoimmune disease, infectious disease, immune deficiency including SCID or other therapeutic application requiring general stimulation of the immune system. Other potential uses include treatment of infectious diseases is under an adjuvant in cancer vaccine strategy. The DNA sequences encoding the IL-2 mutein may be used in gene therapy applications in those diseases in which IL-2 is expected to provide an effective therapy due to its T cell activity. The sequence does not appear in the specification; it was created using information provided and the wild type IL-2 sequence (see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma;
malignant melanoma; autoimmune disease; infectious disease;
immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;
                                                                                                                                                                                                                                                                                                                                                                            New polypeptide comprising a human interleukin-2 (IL-2) mutein useful for treating diseases such as HIV and cancer \,
                                                                          /note= "wild type Asp has been replaced with Arg"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amino acid sequence of human interleukin-2 (IL-2) mutein D200.
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Misc-difference 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY53828 standard; Protein; 133 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 5; Page -; 80pp; English.
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                                                                                                                                                                                         99WO-US10643.
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Best Local Similarity 96.8°
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                       Greve JM,
                                                                                                                                                                                                                                                                                                                                          WPI; 2000-086598/07.
                                                                                                                                                                                                                                                                    (FARB ) BAYER CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133 AA;
                                                                                                                                                                                                                                                                                                     Shanafelt AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene therapy.
   Homo sapiens.
                                                                                                                                                                                         13-MAY-1999;
                                                                                                                                                                                                                             15-MAY-1998;
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                                                                                                               WO9960128-A1
                                                                                                                                                    25-NOV-1999
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ID AAY5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY53822-66 represent human interleukin-2 (IL-2) muteins, where human IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2, harn used in cancer treatment, has adverse side effects. The 'coxicities associated with IL-2 therapy include severe fever, nausea, toxicities invention have reduced toxicity and are better tolerated. It is the mediation of IL-2 through natural killer cells which causes the colls: The muteins preferentially activate T cells over natural killer cells. IL-2 muteins may be used for treating a mammal afflicted with an IL-2 treatable condition. The condition may be one of the following:

IL-2 treatable condition. The condition may be one of the following:

IL-2 treatable condition and malignant melanoma, autoimmune classase, infectious disease, immune deficiency including SCID or other therapeutic application requiring general stimulation of the immune classase, infectious disease, immune deficiency including strategy. The DNA sequences encoding the IL-2 mutein may be used in gene therapy complications in those diseases in which IL-2 is expected to provide an effective therapy due to its T cell activity.

Chaplications in those diseases in which IL-2 sequence (see notes the suppart in the specification; it was created in such an indicanation provided and the wild type IL-2 sequence (see
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma; malignant melanoma; autoimmune disease; infectious disease; immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;
                                                                                                                                                                                                                                                                                                                                      polypeptide comprising a human interleukin-2 (IL-2) mutein useful treating diseases such as HIV and cancer \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                   /note- "wild type Asp has been replaced with Lys"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 153; DB 21; Length 133; 100.0%; Pred. No. 5.8e-14; 1.1ve 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amino acid sequence of human interleukin-2 (IL-2) mutein D20R.
                                                                                                                                                                                                                                                                    Wetzel GD;
                                                                                                                                                                                                                                                                Lembach KJ,
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Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                           Example 5; Page -; 80pp; English.
                                                                                                                                                    99WO-US10643.
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                                                                                                                                                                                                                                                                Greve JM,
                                                                                                                                                                                                                                                                                                   WPI; 2000-086598/07.
                                                                                                                                                                                                                           (FARB ) BAYER CORP.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     133 AA;
 Key
Misc-difference
                                                                                                                                                                                                                                                                Shanafelt AB,
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                                                                                                                                                                                      15-MAY-1998;
                                                                      WO9960128-A1
                                                                                                             25-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31;
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Gaps

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Indels

Length 133;

Score 150; DB 21; Pred. No. 1.5e-13; 1; Mismatches 0;

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Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma;
malignant melanoma; autoimmune disease; infectious disease;
immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;
                                                                                                                                                                                                                                                                                                                                                                                           terminal portion corresponding essentially to the AA sequence of interleukin-2 (IL-2) but contg. less than 100 AAs. The IL-2 sequence is coded for by 1,2 or 3 of the A-F segments of the IL-2 gene having the formula. (ECORI)-A-PStI-B-MUIT-C-XBal-D-SacI-E-Pvul-F-(SalI), for example, the sequence in AAN70921. The segments are joined in any appropriate sequence and opt. connected by usual adaptors or linkers.
                                                                                                                                                                                                                                                                        New fusion protein contg. small interleukin 2 ballast fragments - allowing control of product solubility, and corresp. genes, vectors and transformed host cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "wild type Asp has been replaced with Ser"
                                                                                                                                                                                                                                                                                                                                                                         The inventors claim a novel fusion protein which has a C- or N-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amino acid sequence of human interleukin-2 (IL-2) mutein D20S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.4%; Score 149; DB 8; Length 134; 96.8%; Pred. No. 2.2e-13; 1.ve 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 APTSSSTKKTQLQLEHLLLELQMILNGINNY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY53830 standard; Protein; 133 AA,
                                                                                                                                                                                                                                                                                                                                             Disclosure; pp8-9; 22pp; German.
                                                                   86DE-3636903
                                                                                                     85DE-3545565
86DE-3636903
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                                                                                                                                                                                                                      WPI; 1987-186353/27
N-PSDB; AAN70921.
                                                                                                                                                      (FARH ) HOECHST AG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134 AA;
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                                                                   30-OCT-1986;
                                                                                                     21-DEC-1985;
30-OCT-1986;
                                                                                                                                                                                        Habermann P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene therapy
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                                   02-JUL-1987
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Matches
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HIV, cancer including renal carcinome and malignant melanoma, autoimmune therapeutic application requiring general stimulation of the immune system. Other potential uses include treatment of infectious diseases to system. Other potential uses include treatment of infectious diseases to system. Other potential uses include treatment of infectious diseases to but sequences encoding the IL-2 mutein may be used in gene therapy applications in those diseases in which IL-2 is expected to provide an effective therapy due to its T cell activity.

Consist this sequence does not appear in the specification; it was created to save and appear in the specification; it was created to a save and appear in the specification; it was created to a save as the sequence (see
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                                                                                                 /note= "wild type Asp has been replaced with Gln"
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                                                                                                                                                                                                                                                                                                           Wetzel GD;
                                                                                                                                                                                                                                                                                                         Lembach KJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence of segments A-F of interleukin-2 (IL-2).
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                                                                                                                                                                                                                                                                                                         Jesmok G,
                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP70573 standard; Protein; 134 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                           Example 5; Page -; 80pp; English.
                                                                                                                                                                                                      99WO-US10643
                                                                                                                                                                                                                                      0800800-SD86
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Matches 30; Conservative
                                                                                                                                                                                                                                                                                                        Greve JM,
                                                                                                                                                                                                                                                                                                                                         WPI; 2000-086598/07
                                                                                                                                                                                                                                                                      (FARB ) BAYER CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133 AA;
                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                        Shanafelt AB,
                                 Homo sapiens.
                                                                                                                                                                                                                                      15-MAY-1998;
                                                                                                                                                                                                      13-MAY-1999;
                                                                                                                                   WO9960128-A1
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                                                                                                                                                                    25-NOV-1999
              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY53821)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAP70573;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP70573
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Gaps

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The present sequence is a human interleukin-2 (IL-2) mutein, where human IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2, when used in cancer treatment, has adverse side effects. The toxicities associated with IL-2 therapy include severe fever, nausea, vomiting, vascular leak and serious hypotension. The muteins described in this invention have reduced toxicity and are better tolerated. It is the mediation of IL-2 through natural killer cells which causes the efficacy is mediated by the direct activation of T cells. The muteins preferentially activate T cells which causes the cells. IL-2 muteins may be used for treating a mammal afflicted with an IL-2 treatable condition. The condition may be one of the following:

HIV, cancer including renal carcinoma and malignant melanoma, autoimmune disease, infectious disease, immune deficiency including SCID or other therapeutic application requiring general stimulation of the immune system. Other potential uses include treatment of infectious diseases conclust and as an adjuvant in cancer vaccine strategy. The DNA sequences encoding the IL-2 mutein may be used in gene therapy applications in those diseases in which IL-2 is expected to provide an effective therapy due to its T cell activity.

Conce: this sequence does not appear in the specification; it was created custing information provided and the wild type IL-2 sequence (see
                                                                                                                                                 New polypeptide comprising a human interleukin-2 (IL-2) mutein useful for treating diseases such as HIV and cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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Benitez Fuentes JV, Narciandi Diaz RE, Rodriquez Reinoso JL;
Estrada Garcia MP, Garcia Suarez J, Herrera Martinez LS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96.7%; Score 148; DB 21; Length 133; 96.8%; Pred. No. 3e-13; 1. Indels ()
                                                       Wetzel GD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              interleukin-2; IL-2; gag 24; gp 41; gp 36; HIV detection
                                                    Lembach KJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human interleukin-2-derived stabiliser peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLNCOMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                    Jesmok G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ź
                                                                                                                                                                                                                        Example 5; Page -; 80pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR11015 standard; Peptide; 58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90EP-0202108.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (INGE-) CENT ING GENETICA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 96.7
Best Local Similarity 96.8
Matches 30; Conservative
                                                    Greve JM,
                                                                                                  WPI; 2000-086598/07.
       (FARB ) BAYER CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 133 AA;
                                               Shanafelt AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-AUG-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13-MAR-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP416673-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease, infectious disease, immune deficiency including SCID or other disease, infectious disease, immune deficiency including SCID or other system. Other potential uses include treatment of infectious diseases such as tuberculosis and as an adjuvant in cancer vaccine strategy. The DNA sequences encoding the IL-2 mutein may be used in gene therapy effective therapy due to its T cell activity.

The sequence does not appear in the specification; it was created using information provided and the wild type IL-2 sequence (see
                                                                                                                                                                                                           AAY53822-66 represent human interleukin-2 (IL-2) muteins, where human IL-2 has been substituted at one of positions 20, 88 or 126. Wild-type IL-2, when used in cancer treatment, has adverse side effects. The toxicities associated with IL-2 therapy include severe fever, nausea, vomiting, vascular leak and serious hypotension. The muteins described in this invention have reduced toxicity and are better tolerated. It is the mediation of IL-2 through natural Killer cells which causes the toxicity whereas the efficacy is mediated by the direct activation of reals. The muteins preferentially activated Tealls over natural Killer cells. IL-2 muteins may be used for treating a mammal affilicted with an IL-2 treatable condition. The condition may be one of the following:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; interleukin-2; IL-2; IL-2 mutein; HIV; cancer; renal carcinoma; malignant melanoma; autoimmune disease; infectious disease; immune deficiency; SCID; tuberculosis; adjuvant; cancer vaccine;
                                                                                             New polypeptide comprising a human interleukin-2 (IL-2) mutein useful for treating diseases such as HIV and cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amino acid sequence of human interleukin-2 (IL-2) mutein D20N.
  Wetzel GD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 21; Length 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Indels
Lembach KJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96.7%; Score 148; DB 21
96.8%; Pred. No. 3e-13;
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 APTSSSTKKTQLQLEHLLLSLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
Jesmok G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
Misc-difference 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY53901 standard; Protein; 133 AA.
                                                                                                                                                                     Example 5; Page -; 80pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30; Conservative
Greve JM,
                                             WPI; 2000-086598/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133 AA;
Shanafelt AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  jene therapy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9960128-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
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Gaps

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Resonances between coding and non-coding regions were measured for the native human IL-2 gene in plasmid pT911 (see AA055630) and a synthetic IL-2 gene (AA055639) in which alternative, degenerate codons were used in order to introduce additional restriction sites. It was found that the degenerate changes greatly upset the inatural order between coding and non-coding regions; as a result, the amount of protein expressed by the degenerate gene is likely to be adversely affected. The inventors have proposed an "optimised" il. 2 gene with the aim of increasing the amount of protein expressed by the gene with the sam of sequence is also described as
                                                                                                                                                                                                                                  non-coding region; coding region; resonance; interaction; IL-2; optimization; degenerate sequence; plasmid pT13SNco; pT9-11; gene expression; regulation; recombinant protein production; interleukin-2; interleukin-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application of optimised gene expression - for scientific, industrial and therapeutic purposes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Multifunctional protein; targetted hetero-association;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96.1%; Score 147; DB 15; 96.8%; Pred. No. 1.7e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 28 and Fig 29; 110pp; French.
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0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 APTSSSTKKTQLQLEHLLLDLQMILNGINNY
                                                                            AAR48245 standard; Protein; 60 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR95433 standard; Protein; 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92FR-0007571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Interleukin-2 ALPHA segment.
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                                                                                                                                                       (first entry)
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Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                             Human Interleukin-2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1994-028256/04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         by the gene. (interleukin-6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PERE/) PEREZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JUN-1992;
                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                            22-JUN-1992;
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                                                                                                                                                       12-JUL-1994
                                                                                                                                                                                                                                                                                                                                                                   FR2692594-A.
                                                                                                                                                                                                                                                                                                                                                                                                        24-DEC-1993
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                                                                                                                  AAR48245;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Perez J;
                                           RESULT 11
AAR48245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
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                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunoprotein MPB 70 encoding sequence may be encorporated into plasmid pT13S with an N-terminal fragment of human IL-2. The plasmid may be used to transform an expression system giving a fusion protein which may be used as a diagnostic agent for bovine tuberculosis infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                   The sequence corresponds to the first 58 amino acid residues of human IL-2. It forms part of a fusion protein, linked to a heterologous protein. The heterologus protein is preferably gag 24 or a fragment of gp 41 of HIV-1 or 1 t is a fragment of gp 36 of HIV-2. Such fusion proteins can be used to detect antibodies to these proteins. See also AAQ10899-Q10903.
                                                           Method for expressing heterologous proteins – as fusion protein, using vector contg. stabilising sequence
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                                                                                                                                                                                                                                                                                                                       Score 147; DB 12; Length 58;
Pred. No. 1.7e-13;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96.1%; Score 147; DB 11; Length 60; 96.8%; Pred. No. 1.7e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BCG bacteria derived immuno:protein MPB70 - can be used as diagnostic agent used to determine bovine tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bovine tuberculosis; Interleukin-2; IL-2; plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human IL-2 N-terminal transcript of plasmid pT13S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                        2 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                                                                                  Claim 2; Page 10; 18pp; English
                                                                                                                                                                                                                                                                                                                           96.1%;
96.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR06838 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89JP-0013270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89JP-0013270.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JAN-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 96.1
Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (AJIN ) AJINOMOTO KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1990-278851/37.
WPI; 1991-075192/11.
N-PSDB; AAQ10898.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mycobacterium bovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60 AA;
                                                                                                                                                                                                                                                                                        58 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAQ05976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JP02195895-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JAN-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-AUG-1990.
                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR06838;
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RESULT 10 AAR06838

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Gaps

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Gaps
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                                                                                                                                                                                                               Pro-insulin is produced by treating recombinant precursor protein with a mercaptan to provide 2-10 SH residues per Cys residue, in presence of a chaotropic agent and in aq. medium of pH 10-11, retaing the prod. with 3-50 g hydrophobic adsorber resin per 1 aq. medium of pH 4-7, isolating the adsorbed resin and pro-insulin and desorbing the pro-insulin. This method produces pro-insulin and correctly bonded Cys bridges. Compared with known methods in the involves fewer stages (esp. no sulphitolysis or cyanogen bromide cleavage) and overall losses during purification are reduced, i.e. the process is quicker and gives better yields. Sequences of insulin chain A, B and C are given in AAR68895-97. Sequences of pro-insulin 1-4 are given in AAR68898-901.
                                                                                         Prodn. of pro-insulin with correct disulphide bridges - by treating recombinant precursor protein with mercaptan in alkali and in presence of chaotropic agent, then isolation on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41..44
/label= R2
/note= "a peptide of 4 amino acids"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96.1%; Score 147; DB 15; 96.8%; Pred. No. 2.9e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label- x
76..96
/label- Gly-(A2-A20)-R3
/note- "human insulin A-chain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "human insulin B-chain'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusion protein contg. proinsulin sequence 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                        Sabel W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "a peptide of 45..74
/label= R1-(B2-B29)-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                   Disclosure; Page 11; 15pp; German.
                        Obermeier R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR78662 standard; protein; 96 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95EP-0101748.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94DE-4405179
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                                                        WPI; 1994-177718/22
                      Ludwig J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (FARH ) HOECHST AG
                                                                                                                                               hydrophobic resin
                                                                                                                                                                                                                                                                                                                                                                                                                                                      96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-FEB-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-APR-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR78662;
                        Gerl M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
AAR78662
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the targetted hetero-association of recombinant proteins. The IL-2 is segmented between His79 and Lys80 to form ALPHA (AAR9543) and BETA (AAR95434) segments encoded by MroI-AscI-HindIII gene cassettes (AAT15267 and AAT15268, respectively). The device combines the low immunogenicity of the plasmattic protein with a preferable effector segmental cysteine bridge (Cys58-Cys105) after assembly. The combination of lor more antibody fragments against tumour antigens with additional cytokines, e.g. IL-6 or IL-12, targets the multi-cytokine complex directly to the tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                           Targetted hetero-association of recombinant proteins to multi-functional complexes - useful for therapeutic and diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human interleukin-2 (IL-2) can be used as an assembly device for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
protein assembly; antibody engineering; interleukin-2; IL-2;
cytokine; tumour; therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 88;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        96.1%; Score 147; DB 17; 96.8%; Pred. No. 2.6e-13;
                                                                                                                                                                                                                                   (MORP-) MORPHOSYS GES PROTEINOPTIMIERUNG MBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 33
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR68899 standard; peptide; 96 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 3; Fig 13; 34pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mercaptan; chaotropic agent.
                                                                                                                                                              95WO-EP04117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92DE-4240420
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Matches 30; Conservative
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N-PSDB; AAT15267.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (FARH ) HOECHST AG.
                                                                                                                                                                                                                                                                       Pack P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88 AA;
                                                                                                                                                              20-OCT-1995;
                                                                                                                                                                                              10-OCT-1994;
                                                                                       WO9613583-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
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                                                                                                                           09-MAY-1996
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                                                      Synthetic.
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                                                                                                                                                                                                                                                                     Lupas A,
                                                                                                                                                                                                                                                                                                                                                                                                purposes
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to the general formula R2-R1-(B2-B29)-Y-X-GIY-(A2-A20)-R3 (II). In formula (II), X = Lys, Arg or a peptide of 2-35 amino acids contg. Lys or Arg at the N- and C-termini; Y = a natural amino acid; R1-phe or a bond; R2 = H, Arg, Lys, a peptide of 2-45 amino acids contg. Arg or Lys at the N- and C-termini; R3 = a natural amino acids acid; (A2-A20) and (B2-B29) are the insulin A- and B-chain sequences from human or other insulin. The proinsulin molecule, released by reyangen bromide, is reacted with mercaptan at a ratio of 2-10 SH residues of mercaptan per Cys residue of proinsulin. The reaction
                                                                            Isolation of insulin that is correctly post-translationally processed - by reacting pro:Insulin with a mercaptan in the presence of a chaotropic agent and purificn. after absorption to hydrophobic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                   takes place in the presence of a chaotropic auxiliary agent at 19H 10-11 and results in proinsulin with correctly linked cystine bridges. Reaction with trypsin and opt. carboxypeptidase B yields correctly folded insulin. The insulin is isolated by absortion on a hydrophobic resin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunotherapy; lymphokine; interleukin-2; thymocyte mitogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Microbial expression of interleukin II and analogues - by using manufactured DNA sequences to transform microorganisms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Indels
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Pred. No. 2.9e-13;
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                Sabel W;
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                Obermeier R,
                                                                                                                                                            Example 2; Page 8; 16pp; German
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96.8%;
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83US-0521967
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(first entry)
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                                              WPI; 1995-284754/38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1985-062280/10.
                Ludwig J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96 AA;
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01-DEC-1991
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10-AUG-1983;
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              Gerl M,
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                             The inventors claim a manufactured gene for the prodn. of IL-2 and analogues, and for polypeptides of IL-2 and analogues, and for methods for their recombinant production. (Updated on 03-OCT-2002 to add missing OS field.)
                                                                                                                                                                                            ö
                                                                                                                                                        Length 120;
                                                                                                                                                                                          1; Indels
                                                                                                                                                        Score 147; DB 6;
Pred. No. 3.7e-13;
0; Mismatches 1;
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                                                                                                                                                                                                                                             1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
                                                                                                                                                                                                                             1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
Claim 34i; Page 35; 39pp; English.
                                                                                                                                                                                          ö
                                                                                                                                                      Query Match 96.1%;
Best Local Similarity 96.8%;
Matches 30; Conservative (
                                                                                                                     120 AA;
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GenCore version 5.1.3
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 protein search, using sw model OM protein

February 20, 2003, 10:03:27 Run on:

; Search time 28.0476 Seconds (without alignments) 106.254 Million cell updates/sec

US-09-776-781-8

1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31 Perfect score: Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

283224 seqs, 96134422 residues Searched:

283224 Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 2000000000 Minimum DB Maximum DB

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

isopenicillin N ac hypothetical prote interleukin 2 - we interleukin 2 - mo cyclin A2 - Africa probable exopolysa type I restriction type I restriction prec hypothetical prote HIV-1 retropepsin probable LysR-type methyl-accepting c probable GDSL-moti interleukin 2 - mo 2-5A-dependent RNA interleukin-2 interleukin-2 interleukin-2 interleukin-2 interleukin-2 interleukin-2 interleukin 2 interleukin-2 interleukin-2 interleukin-2 interleukin-2 Description B84483 I68870 I54512 I51637 ICG12 JN0698 A31278 S16241 S33509 S31509 S31488 I45913 I45913 ICMS2 G82262 F64625 B71890 F95285 H64307 GNLJG4 168871 ICHU2 DB Length Query Match 1 Score 50.5 Result

| anthranilate isome conserved hypothet aminopeptidase C [aminopeptidase C [hypothetical prote nonmuscle myosin I pancreatic-type ri hypothetical prote hypothetical prote hypothetical prote cyclin A - bovine cyclin A - human alkaline proteinas | nypornetical prote
f22b7.5 protein - |
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ALIGNMENTS

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| | interleukin-2 precursor [validated] - human |
| | N; Alternate names: IL-2; T-cell growth factor |
| | C; Species: Homo sapiens (man) |
| | C;Date: 11-Aug-1983 #sequence_revision 11-Aug-1983 #text_change 08-Dec-2000 |
| | C; Accession: A01849; A21192; A20961; S31209; A93297; A90113; A93478; I56518; I73624; |
| | R; Holbrook, N.J.; Lieber, M.; Crabtree, G.R. |
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| | A; Title: DNA sequence of the 5' flanking region of the human interleukin 2 gene: homo |
| | A; Reference number: A93524; MUID: 84247353; PMID: 6330695 |
| | A; Accession: A01849 |
| | A; Molecule type: DNA |
| _ | A; Residues: 1-153 <hol></hol> |
| _ | A; Cross-references: GB: X00695; GB: X00200; GB: X00201; GB: X00202; NID: 933783; PIDN: CAA2 |
| | R;Fujita, T.; Takaoka, C.; Matsui, H.; Taniquchi, T. |
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| | A; Title: Structure of the human interleukin 2 qene. |
| | A; Reference number: A21192; MUID:84170243; PMID:6324170 |
| | A; Accession: A21192 |
| | A; Molecule type: DNA |
| | A; Residues: 1-153 <fuj></fuj> |
| | A; Cross-references: GB:J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676 |
| | R; Holbrook, N.J.; Smith, K.A.; Fornace Jr., A.J.; Comeau, C.M.; Wiskocil, R.L.; Crabt |
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| _ | A; Title: T-cell growth factor: complete nucleotide sequence and organization of the q |
| • | A; Reference number: A20961; MUID:84170356; PMID:6608729 |
| _ | A; Accession: A20961 |
| | A; Molecule type: DNA |
| _ | |

A; Residues: 1-153 <HO2>

A; Molecule type: mRNA A; Residues: 1-153 <-RNA A; Cross-references: GB:V00564; NID:q33780; PIDN:CAA23827.1; PID:g33781 A; Experimental source: leukemic T-cell line, Jurkat-111, cloned from Jurkat-FHCRC R; Maeda, S.; Nishino, N.; Obaru, K.; Mita, S.; Nomiyama, H.; Shimada, K.; Fujimoto, K Biochem. Biophys Res. Commun. 115, 1040-1047, 1983 A; Title: Cloning of interleukin 2 mRNAs from human tonsils.

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Nilternate names: IL-2; T-cell growth factor
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Species: Hylobates lar (common gibbon, white-handed gibbon)
C;Date: 31-pec-1991 #sequence_revision 31-Dec-1991 #text_change 22-Jun-1999
C;Accession: A94067; A01849
R;Chen, S.J.; Holbrook, N.J.; Mitchell, K.F.; Vallone, C.A.; Greengard, J.S.; Crabtre Proc. Natl. Acad. Sci. U.S.A. 82, 7284-7289, 1985
A;Title: A viral long terminal repeat in the interleukin 2 gene of a cell line that c A;Reference number: A94067; MUID:86042650; PMID:3877307
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A; Account type: mRNA
A; Account type: mRNA
A; Cross cas: 1.153 CCHE
A; Descrimental source: leukemia cell line MLA 144; ATCC TIB 201
A; Note: the integration of a retrovirus sequence containing a 5' LTR into the 3' nonc C; Superfamily: interleukin-2
C; Superfamily: interleukin-2
C; Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-ce
C; Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-ce
F; 1-20/Domain: signal sequence #status predicted <1L2>
F; 21-153/Product: Interleukin-2 #status predicted
F; 78-125/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A.Cross-references: GDB:119344; OMIM:147680
A.Map position: 4926-4927
A.Introns: 4923; 6923; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 117,3; 
                                                                                                                                                    A; Note: the O-linked glycosylation site in recombinant material matched that from hum R; Grabenhorst, E.; Hofer, B.; Nimtz, M.; Jaeger, V.; Conradt, H.S. Bur. L. 189-189-197, 1993
Bir. L. Blochem. 215, 189-197, 1993
A; Title: Blosynthesis and secretion of human interleukin 2 glycoproteins variants fro A; Reference number: S34052; MUID:93345493; PMID:8344280
A; Contents: annotation; glycosylation of variant forms expressed in insect cells
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C;Species: Felis silvestris catus (domestic cat)
C;Date: 0.3-Feb-1994 #sequence_revision 0.3-Feb-1994 #text_change 16-Jul-1999
C;Accession: JN0698
R;Cozzi, P.J.; Padrid, P.A.; Takeda, J.; Alegre, M.L.; Yuhki, N.; Leff, A.R.
Biochem. Biophys. Res. Commun. 194, 1038-1043, 1993
A;Fitle: Sequence and functional characterization of feline interleukin 2.
A;Reference number: JN0698; MUID:93356765; PMID:8352761
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96.8%; Pred. No. 5.6e-14;
iive 0; Mismatches 1;
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Best Local Similarity 96.8%;
Matches 30; Conservative
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A; Residues: 1-68 <RE2>
A; Cross-references: 1-68 <RE3>
A; Cross-references: 1-68 <RE3>
A; Cross-references: 1-68 <RE3>
A; Cross-references: 1-6, 3042-3049; Bressler, P.; Holbrook, N.J.; Norris, C.A.; Kamoun, M.;
Mol. Cell. Biol. 6, 3042-3049; 1986
A; Title: Promoter region of interleukin-2 gene undergoes chromatin structure changes and A; Reference number: 157603; MUID:87064618; PMID:3491296
                                                                                                                                                                                                      A)Cross-references: GB.J00264; NID:g186294; PIDN:AAD48509.1; PID:g5729676
A)Experimental source: tonsillar mononuclear cells
R): Patetinck, G.; Cheroutre, H.; Simons, G.; Degrave, W.; Tavernier, J.; Remau Nucleic Acids Res. 11, 4307-4323, 1983
A)Title: Molecular cloning of human interleukin 2 cDNA and its expression in Escherichia A)Reference number: A93478; MUID:83246551; PMID:6306584
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A; Note: mutation of Phe-42 to Ala reduced binding to the IL-2 receptor 5-10 fold without R:RODD, R.J.; Kutny, R.M.; Panico, M.; Morris, H.R.; Chowdhry, V.
Proc. Natl. Acad. Scl. U.S.A. 81, 6486-6490, 1984
A; Title: Amino acid sequence and post-translational modification of human interleukin 2.
A; Reference number: A94009; MUID:85038540; PMID:6333684
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A; Residues: 21-153 <ROB>
A; Residues: 21-153 <ROB>
A; Note: disulfide bonds and carbohydrate binding site were determined
A; Note: heterogeneity in Jurkat-derived IL-2 is primarily due to differences in glycosyl
n in lacking 21-Ala (FT-IL2-A and FT-IL2-B)
A; Conradt, H.S.; Nimtz, M.; Dittmar, K.E.J.; Lindenmaier, W.; Hoppe, J.; Hauser, H.
J. Biol. Chem. 264, 17368-17373, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A:Title: Interleukin-2 transcripts in human and rodent brains: possible expression by A:Reference number: 156518; MUID:95239150; PMID:7722480
A:Accession: 156518
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Molecule type: mRNA; Molecule type: mRNA; Molecule type: mRNA; Molecule type: 57, F', 9-17, P', 19-32, X', 34-45, X', 47-143 <RES>; Gresdues: 57, F', 9-17, P', 19-32, NID:g999001; PIDN:AAD14264.1; PID:g4261964; NIShIno, NI; Obaru, K.; Maeda, S.; Shimada, K.; Onoue, K.; Obaru, K.; Maeda, S.; Shimada, K.; Onoue, K.; Maeda, Res. 6, 197-205, 1985; Molecular type of the DNA regions flanking the human interleukin 2 gene.
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R;Weir, M.P.; Chaplin, M.A.; Wallace, D.M.; Dykes, C.W.; Hobden, A.N.
Blochemistry 27, 6883-8682, 1988
A;Tile: Structure-activity relationships of recombinant human interleukin 2.
A;Reference number: 152401; MUID:89062420; PMID:3264184
A;Contents: recombinant IL-2 and mutants expressed in E. coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :Cross-references: GB:V00564; NID:933780; PIDN:CAA23827.1; PID:933781
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A; Reference number: A90113; MUID:84023840; PMID:6312994
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R:Eizenberg, O.; Faber-Elman, A.; Lotan, M.; Schwartz,
J. Neurochem. 64, 1928-1936, 1995
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Cross-references: GB:S77834; NID:999000
Accession: 173624
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Status: translated from GB/EMBL/DDBJ
Molecule type: DNA
Residues: 'M',21-153 <RE4>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Status: translated from GB/EMBL/DDBJ
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                                                                                                                                                               Residues: 1-153 <MAE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Residues: 1-153 <DEV>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA
                                                                                                                   A; Molecule type: mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Molecule type:
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C;Accession: S33509
Submitted to the EMBL Data Library, October 1992
A;Reference number: S33509
A;Reference number: S33509
A;Reference number: S33509
A;Accession: S33509
A;Accession: S34509
A;Accession: S34509
A;Accession: S34509
A;Cession: S34509
A;Cession: S34509
A;Cession: S34509
A;Cession: S34509
A;References: EMBL: X68779; NID:9577588; PIDN:CAA48679.1; PID:9311638
C;Superfamily: interleukin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C:Species: Equus cabalus (domestic horse)
C:Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C:Accession: S31391
A:Reference number: S31391
A:Reference number: S31391
A:Reference number: S1391
A:Residues: 1-149 <-TAV>
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                                                                                                                                                                                                                                                                                                                  interleukin-2 - Mongolian jird
C;Species: Meriones unguiculatus (Mongolian jird)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Capra aegagrus hircus (domestic goat)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C;Accession: S38662
R;Rimstad, E.
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A;Description: The molecular cloning and expression of caprine interleukin A;Reference number: $38662
A;Accession: $38662
A;Status: preliminary
                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                               Length 154;
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Score 96; DB 2; Leng
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Pred. No. 5.6e-05;
8; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 95; DB 2; Le
Pred. No. 2.1e-06;
2; Mismatches 9;
                                                                      Pred. No. 1.56
4; Mismatches
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                                                                                                                                             1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                            51
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                                                                                                                                                                          21 APTSSSTKNTKKQLEPLLLDLQLLLKEVKNY
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                                            62.78;
64.58;
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Best Local Similarity 64.5%;
Matches 20; Conservative
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                                                                                              Conservative
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Matches 16; Conservative
                                                                 Similarity
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                                                                    Best Local Sim
Matches 20;
                                            Query Match
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S38662
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R;Lefevre, F.
submitted to the EMBL Data Library, March 1991
A;Description: Molecular cloning of porcine interleukin 2 cDNA by the polymerase chain A;Reference number: S15473
A;Accession: S15473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NATIONAL MATERIAL MOVEGICUS (Norway rat)

C; Date: 26-Apr-1989 #sequence_revision 26-Apr-1989 #text_change 16-Jul-1999
C; Accession: A45882; A31278

R; McKnight, A.J.; Mason, D.W.; Barclay, A.N.
Immunogenetics 30, 145-147, 1989
A; Title: Sequence of rat interleukin 2 and anomalous binding of a mouse interleukin; A; Reference number: A45882; MUID:89339608; PMID:2788130
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N;Alternate names: IL-2; T-cell growth factor
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
C;Accession: S16241; S15473
R;Goodall, J.C.; Emery, D.C.; Bailey, M.; English, L.S.; Hall, L.
Biochim: Biophys. Acta 1089, 257-258, 1991
A;Title: cDNA cloning of porcine interleukin 2 by polymerase chain reaction.
A;Reference number: S16241; MUID:91274360; PMID:2054386
A;Molecule type: mRNA
A;Residues: 1-154 <GOO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A:Cross-references: GB:M22899; NID:g204909; PIDN:AAA41427.1; PID:g204910
C;Superfamily: interleukin-2
C;Keywords: cytokine; glycoprotein; growth factor; immunoregulation; T-cell
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                                                                                                                                                                                                                                                                                                Gaps
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                                                                                 A; Molecule type: mRNA
A; Residues: 1-154 <CO2>
A; Cross-references: GB: L19402; NID: g304313; PIDN: AAA02865.1; PID: g304314
C; Superfamily: interleukin-2
C; Keywords: growth factor
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C;Superfamily: interleukin-2
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Pred. No. 1.1e-06;
                                                                                                                                                                                                                                                                                          4; Indels
                                                                                                                                                                                                                                   Score 107; DB 2;
Pred. No. 3.7e-08;
                                                                                                                                                                                                                                                                                          5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21 APTSSPAKETQQHLEQLLLDLQVLLRGIDNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                          1 APTSSSTKKTQLQLEHLLLKLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                                                      21 APASSSTKETQQQLEQLLLDLRLLLNGVNN 50
                                    on: JN0698
nucleic acid sequence not shown
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64.5%;
                                                                                                                                                                                                                                      ch 69.9%;
1 Similarity 70.0%;
21; Conservative
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A, Status: preliminary
A, Molecule type: mRNA
A, Residues: 1-155 <MCK>
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Best Local Similarity
                                                                                                                                                                                                                                                           Best Local Similarity
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A; Residues: 1-154 <LEF>
                                       A; Accession:
A; Status: nuc
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A;Accession: S21470
A;Molecule type: DNA
A;Molecule type: DNA
A;Molecule type: DNA
A;Cross-references: EMBL:X17201; NID:9452; PIDN:CAA35062.1; PID:9453
C;Genetics:
C;Genetics:
C;Superfamily: interleukin-2
C;Superfamily: interleukin-2
C;Keywords: cytokine; glycoprotein; growth factor; immunoregulation; lymphokine; T-ce
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A;Residues: 1-63 <MATE>
A;Cross-references: EMBL:X66058; NID:g52725; PIDN:CAA46854.1; PID:g52726
R;Ghosh, S.; Palmer, S.M.; Rodrigues, N.R.; Cordell, H.J.; Hearne, C.M.; Cornall, R.J
Nature Genet. 4, 404-409, 1993
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NiAlternate names: IL-2: T-cell growth factor (TCGF)
C;Species: Mus musculus (house mouse)
C;Species: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 21-Jul-2000
C;Accession: A93550; A54490; A94064; I48597; A01850; I84713
R;Fuse, A.; Fujita, T.; Yasumitsu, H.; Kashima, N.; Hasegawa, K.; Taniguchi, T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ! Interleukin-2 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: $37289; $27205; $36162; $24936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Title: Polygenic control of autoimmune diabetes in nonobese diabetic mice. A;Reference number: S36162; MUID:94004970; PMID:8401590 A;Accession: S36162
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C;Keywords: cytokine; glycoprotein; growth factor; lymphokine; T-cell
E:1.20/Domain: signal sequence #status predicted <SIG>
F;21-63/Product: interleukin-2 #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Matesanz, F.; Alcina, A.; Pellicer, A.
Blochlim, Biophys. Acta 1132, 335-336, 1992
A;Title: A new cDNa sequence for the murine interleukin-2 gene.
A;Reference number: S27205; MUID:93041941; PMID:1420317
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                                                                                                                                                                                                                                                                                                                                                    Length 155;
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6; Mismatches 9; Indels
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   submitted to the EMBL Data Library, December 1989
A; Reference number: S21470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Todd, J.A.
submitted to the EMBL Data Library, April 1993
Keference number: S37289
A;Accession: §37289
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50.08;
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A;Molecule type: mRNA
A;Residues: 1-169 <TOD>
A;Cross-references: EMBL:X73040
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A; Residues: 1-50 <GHO>
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A;Residues: 1-153 <GOOD
A;Cross-references: EMBL:X53934; NID:g1281; PIDN:CAA37881.1; PID:g1282
A;Cross-references: EMBL:X53934; NID:g1281; PIDN:CAA37881.1; PID:g1282
R;Seow, H.F.; Rothel, J.S.; Radford, A.J.; Wood, P.R.
Ricciac Acids Res. 18, 7175, 1990
A;Title: The molecular cloning of orine interleukin 2 gene by the polymerase chain react
A;Reference number: S13102; MUID:91088336; PMID:2263496
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C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 16-Jul-1999
C;Date: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change 16-Jul-1999
C;Caccespion: 145913; S21470; S20761
R;Cerretti, D.P.; McKereghan, K.; Larsen, A.; Cantrell, M.A.; Anderson, D.; Gillis, S.; Proc. Natl. Acad. Sci. U.S.A. 83, 3223-3227, 1986
A;Title: Cloning, sequence, and expression of bovine interleukin 2.
A;Reference number: 145913; MUID:86205869; PMID:3517854
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C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 16-Jul-1999
C;Accession: Sil488; Sil02; SiS517
R;Goodall, J.C.; Emery, D.C.; Perry, A.C.F.; English, L.S.; Hall, L.
Nucleic Acids Res. 18, 5883, 1990
A;Title: CDNA cloning of ovine interleukin 2 by PCR.
A;Reference number: Sil488; MUID:91016933; PMID:2216781
A;Molecule type: mRNA
A;Residues: 1-155 <RIM>
A;Cross-references: EMBL:X76063; NID:9416002; PIDN:CAA53664.1; PID:9416003
C;Superfamily: interleukin-2
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A;Residues: 1-155 <CER>
A;Cross-references: GB:M12791; NID:g163204; PIDN:AAA30586.1; PID:g163205
R;Anikeeva, N.N.; Vinogradova, T.V.; Votoshin, O.N.
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A;Molecule type: mRNA
A;Realdues: 1-5,'L',7-155 <SEO>
A;Cross-references: EBBL:X55641; NID:g1810; PIDN:CAA39165.1; PID:g1811
B;Bujdoso, R.; Williamson, M.L.; Sargan, D.R.; Hein, W.H.; McConnell, submitted to the EMBL Data Library, April 1991
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Pred. No. 0.0045;
6; Mismatches 9; Indels
                                                                                                                                                         Length 155;
                                                                                                                                                   Score 72; DB 2; Length 15:
Pred. No. 0.0045;
6; Mismatches 9; Indels
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A;Molecule type: mRNA
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A; Residudes: 21-153 (BUJ>
A; Cross-references: EMBL: X60148
C; Superfamily: interleukin-2
                                                                                                                                                      Query Match
Best Local Similarity 50.09
Matches 15; Conservative
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Accession: S15517
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UNIONAL TETTOPEPSIN (EC 3.4.23.16) - simian immunodeficiency virus (African green monke N; Contains: endonuclease (EC 3.1...); retropepsin (EC 3.4.23.16); RNA-directed DNA p C; Species: simian immunodeficiency virus, SIV
C; Species: simian immunodeficiency virus, SIV
C; Species: 313, 457-401.
E; FUKASAWA, MIULAY T.; Hasegawa, A.; Morikawa, S.; Tsujimoto, H.; Miki, K.; Kitam Nature 333, 457-461, 1988
A; Title: Sequence of simian immunodeficiency virus from African green monkey, a new m A; Reference number: A30045; MUD:88232906; PMID:3374586
A; Accession: B30045
A; Accession: B30045
A; Accession: B30045
A; Residues: 1-1061 < FUK>
A; Res
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N.Alternate names: acyl coenzyme A-6-aminopenicillanic acid acyltransferase; acyltran diulans. Species: Emericella nidulans. Aspergillus nidulans
C; Species: Emericella nidulans. Aspergillus nidulans
C; Species: Emericella nidulans. Aspergillus nidulans
C; Accession: S12169; A36142; S09090
C; Accession: S12169; A36142; S09090
A; Title: Cloning, characterization of the acyl-CoA:6-amino penicillanic acid acyltran A; Reference number: S12169; MUD:90340281; PMID:2166227
A; Reference condeper: S12169; MUD:90340281; PMID:2166227
A; Molecule type: DNA
A; Molecule type: DNA
A; Residues: 1-357 cMON>
A; Rosidues: 1-357 cMON>
A; Rosidues: 1-357 cMON>
A; Cross-references: EMBL:X53310; NID:92378; PIDN:CAA37394.1; PID:92379
B; Tobin, M. B.; Fleming, M. D.; Skatrud, P. L.; Miller, J. R.
B; Tobin, M. B.; Fleming, M. D.; Skatrud, P. L.; Miller, J. R.
A; Title: Molecular characterization of the acyl-coenzyme A:isopenicillin N acyltransf herichia coli.
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A; Accession: A36142
A; Reference number: A26244, L367
A; Cross-references: GB:M56293; NID:9167999; PIDN:AAA33287.1; PID:9168000
A; Cross-references: GB:M56293; NID:9167999; PIDN:AAA33287.1; PID:9168000
A; Cross-references: GB:M56293; NID:9167999; PIDN:AAA33287.1; PID:9168000
A; A: Wille: Acyl coenzyme A: 6-aminopenicillanic acid acyltransferase from Penicillium c
A; Reference number: S09089; MUID:90242961; PMID:2110531
A; Accession: S09090
A; Molecule type: protein
A; Residues: 103-122 < WHI>
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Pred. No. 15;
4; Mismatches 3; Indels
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37.9%; Preu. ...
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58.8%;
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A; Residues: 1-169 <-DBC>
A; Crost and C. T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
R; Yokota, T.; Arai, N.; Lee, F.; Rennick, D.; Mosmann, T.; Arai, K.
Proc. Natl. Acad. Sci. U.S.A. 82, 68-72, 1985
A; Title: OBs of a cDNA expression vector for isolation of mouse interleukin 2 cDNA clone
A; Reference number: A94064; MUID:85113172; PMID:3918306
A; Accession: A94064
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A;Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C.A.; Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii A;Reference number: A64300; MUD:96337999; PMID:8688087
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C; Superfamily: interleukin-2
C; Superfamily: interleukin-2
C; Superfamily: interleukin-2
C; Superfamily: interleukin-2
F; 1-20/Domain: signal sequence #status predicted <SIG>F; 1-20/Domain: signal sequence #status predicted <SIG>F; 21-169/Product: interleukin-2 #status predicted <MAI>F; 23/Binding site: carbohydrate (Thr) (covalent) #status predicted
F; 92-140/Disuifide bonds: #status predicted
                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-169 <RUS;
R:Degrave, W.; Simons, G.; Devos, R.; Plaetinck, G.; Remaut, E.; Tavernier, J.; Fiers,
Mol. Biol. Rep. 11, 57-61, 1986
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A; Residues: 1-169 < YOK>
A; Cross-references: G18:X02292; NID:g198330; PIDN:AAA39289.1; PID:g309404
A; Cross-references: G18:X02292; NID:g198330; PIDN:AAA39289.1; PID:g309404
R; Kashima, N.; Nishi-Takaoka, C.; Fujita, T.; Taki, S.; Yamada, G.; Hamuro, J.;
Nature 313, 402-404, 1985
Nature 313, 402-404, 1985
A; Title: Unique structure of murine interleukin-2 as deduced from cloned cDNAs.
A; Reference number: 148597; MUID:85111148; PMID:2578624
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C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: H64307
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    Nucleic Acids Res. 12, 9323-9331, 1984
A;Title: Organization and structure of the mouse interleukin-2 gene.
A;Reference number: A93550; MUID:85087940; PMID:6240025
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A;Molecule type: mRNA
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Sukaryota: Metazos: Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euthazia; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606, 9580;
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MEDLINE-84023840;
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
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"Molecular cloning of human interleukin 2 cDNA and its expre
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Yoshimoto R., Hamuro J.;
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MEDLINE-96422299; Pubmed-8824916;
Chernicky C.L., Tan H., Burfelnd P., Ilan J., Ilan J.;
Sequence of interleukin-2 isolated from human placental poly A+ RNA:
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MEDLINE-85038540; PubMed-6333684;
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Interleukin-2 transcripts in human and rodent brains: possible
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                                                                                                                                                                                                                                                                                                                                            Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases
                                             MEDLINE-84170243; Pubmed-6324170;
Fujita T., Takaoka C., Marsui H., Taniguchi T.;
"Structure of the human interleukin 2 gene.";
Proc. Natl. Acad. Sci. U.S.A. 80:7437-7441(1983).
 Proc. Natl. Acad. Sci. U.S.A. 81:1634-1638(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-87064618; PubMed-3491296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-90008901; Pubmed-2793860;
                                                                                                                             MEDLINE-95239150; Pubmed-7722480;
                                                                                                                                                                 expression by astrocytes.";
J. Neurochem. 64:1928-1936(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                       Blochemistry 27:6883-6892(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Blomed. Res. 6:197-205(1985)
                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 21-153 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 1-68 FROM N.A. SPECIES-Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 1-69 FROM N.A.
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                       SEQUENCE FROM N.A.
                                                                                                        SEQUENCE FROM N.A.
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                                   SPECIES-Human;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DATABASE: NAME-RRD Systems, cytokine source book: IL2;
WWW-"http://www.rndsystems.com/asp/g_sitebuilder.asp?bodyid-206".
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MEDLINE-95111955; PubMed-7529123;
Bamborough P., Hedgecock C.J., Richards W.G.;
"The interleukin-2 and interleukin-4 receptors studied by molecular
                                        SPECIES-H.iar;
MEDLINE-86042650; PubWed-3877307;
Chen S.J., Holbrook N.J., Mitchell K.F., Vallone C.A.,
Greengard J.S., Crabtree G.R., Lin Y.;
"A viral long terminal repeat in the interleukin 2 gene of a cell
line that constitutively produces interleukin 2.";
Proc. Natl. Acad. Sci. U.S.A. 82:7284-7288(1985).
[16]
X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mott H.R., Driscoll P.C., Boyd J., Cooke R.M., Weir M.P.,
Campbell I.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPECIES-Human;
MEDLINE-88070646; PubMed-3500515;
MEDLINE-88070646; PubMed-3500515;
MEDLINE-88070646; PubMed-3500515;
MITAGE-dimensional structure of interleukin-2.";
Science 238:1707-1709(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Unraveling the structure of IL-2."; Science 257:410-412(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRÚCTURE BY NMR.
MEDLINE-92379010; PubMed-1510960;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X-RAY CRYSTALLOGRAPHY.
MEDLINE-92335891; PubMed=1631562;
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EMBL; K02056; AAA98792.1; -.
EMBL; M13879; AAA59141.1; -.
EMBL; K03174; AAA35453.1; -.
EMBL; S7784; AAD14263.2; -.
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SEQUENCE FROM N.A.
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EMBL; V00564;
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Matches

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IL2_MACFA RESULT

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                                                                                                                                                                                                                                                                                                                                                                                                     J. TEMBOROF. 155:3946-3954(1995).

-I. FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIEFRATION AND OTHER ACTIVITIES CROUIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVIATED KILLER CELLS, NATURAL KILLER CELLS, BY GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commer
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O-LINKED (GALNAC. . .) (BY SIMILARITY).
                                                                                                                                         Macaca mulatta (Rhesus macaque), and Macaca nemestrina (Pig-tailed macaque). Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                              Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.; "Comparative sequence analysis of cytokine genes from human and nonhuman primates.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IL2_CERTO STANDARD; PRT; 154 AA. P46649; 01-NOV-1995 (Rel. 32, Created) 01-NOV-1995 (Rel. 32, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGGF).
                                                           01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY).
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
  154 AA
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0; Mismatches
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  PRT;
                                                                                                                                                                                                                                                                                                          TISSUE-Blood;
MEDLINE=96003435; Pubmed=7561102;
                                        01-OCT-1996 (Rel. 34, Created)
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EMBL; U19852; AAA86714.1; -.
HSSP; P01585; 31NK.
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  STANDARD;
                                                                                                                                                                                                                       Cercopithecinae; Macaca.
NCBI_TaxID=9544, 9545;
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154
23
126
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Matches 30; Conserv
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IL2_MACMU
P51498;
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IL2_CERTO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-PETIPHERAL BLOOD;
Yabe M., Matsuura Y., Tatsumi M.;
Yabe M., Matsuura Y., Tatsumi M.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
-I-FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTICEBLIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                                Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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01-NOV-1997 (Rel. 35, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
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                   Score 147; DB 1; Length 153;
Pred. No. 4.3e-15;
                                                           1; Indels
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7853FE624A5E4A49 CRC64;
                                                                                                                                                                                                                                               154 AA
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-1- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                      Pred. No. 4.36
0; Mismatches
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0; Mismatches
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17686 MW;
              96.1%;
96.8%;
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                                                           30; Conservative
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                                        Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9541;
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30;
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T-cell.
SIGNAL
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SEQUENCE
                   Query Match
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                  J. Wildl. Dis. 34:81-90(1998).

-1- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Somberg R.L., Pullen R.P., Casal M.L., Patterson D.F., Felsburg P.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
0C92337A4B16B6BB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "A single nucleotide insertion in the canine interleukin-2 receptor gamma chain results in X-linked severe combined immunodeficiency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        029416; 028249;
15-UUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGGF).
  "Sequence and characterization of phocine interleukin 2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
STRAIN=XBRED21/12/93; TISSUE=Lymph node;
STRAIN=95337423; Pubmed=7612930;
Bunham S.P., Argyle D.J., Onlons D.E.;
"The isolation and sequence of canine interleukin-2.";
DNA Seq. 5:177-180(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; DB 1;
2.1e-10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vet. Immunol. Immunopathol. 47:203-213(1995).
                                                                                                                                                                             -i- SUBCELLULAR LOCATION: Secreted.
-i- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          155 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 2.16
6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERLEUKIN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75.8%; Score 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21 APTTSSTKETQQQLEQLLLDLRLLLNGVNNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Interpro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-96016696; PubMed-8571541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 20 BY
21 154 IN
23 23 0-
78 126 WF
154 AA: 17661 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; U79187; AAC12258.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 71.0
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID-9615;
                                                                                                                                                           SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Henthorn P.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP; P01585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IL2_CANFA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
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  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the Buropean Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@lBb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .) (BY SIMILARITY)
                                                                                                                                                                                                                                                         IMMUNOI. 155:3946-3954(1995).
IMMUNOI. 155:3946-3954(1995).
FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted.
SUBCELLULAR: DELONGS TO THE IL-2 FAMILY.
torquatus atys (Red-crowned mangabey) (Sooty mangabey).
                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mirounga angustirostris (Northern elephant seal).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Mirounga.
                                                                                                                                                                  MEDIINE-96003435; PubMed-7561102;
Villinger F.J., Brar S.S., Mayne A.E., Chikkala N., Ansari A.A.;
"Comparative sequence analysis of cytokine genes from human and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PRO0265; INTERLEUKIN2.
Prodom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00444; IMPERLEUKIN_2; 1.
Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 142; DB 1; Length 154;
Pred. No. 2.4e-14;
0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9FEB51814204BA48 CRC64;
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O-LINKED (GALNAC. .
BY SIMILARITY.
R -> S.
K -> E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      154 AA.
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MEDLINE=98136706; PubMed=9476229;
Shoda L.K.M., Brown W.C., Rice-Ficht A.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              154 AA; 17754 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; U19846; AAB60399.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92.8%;
93.5%;
                                                             Cercopithecinae; Cercocebus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                           nonhuman primates."
J. Immunol. 155:394(
-1- FUNCTION: PRODUC
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Best Local Similarity
Matches 29; Conserv
                                                                                                                             SEQUENCE FROM N.A.
                                                                                      NCBI_TaxID=9531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID-9716;
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062641;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
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Gaps

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Length 154;

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21 153 IN
23 23 IN
11 111 111 N-
78 125 BY
153 AA; 17256 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                 20
153
23
111
125
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Q07885;
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                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY.

INTERLEDKIN-2.

O-LINKED (GALNAC. . .) (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (POTENTIAL).

BY SIMILARITY.

M -> I (IN REF. 3).

Q -> R (IN REF. 3).

C -> Y (IN REF. 3).

L -> M (IN REF. 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                      Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00424; INTERLEUKIN_2; 1.
Cytckine; Glycoprotein; Immune response; Signal; Growth factor;
T-cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             70.3%; Score 107.5; DB 1; Length 155; 68.8%; Pred. No. 4e-09; 1ve 6; Mismatches 3; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Lymph node;
MEDLINE-20304414; PubMed-10843729;
Perkins H.D., van Leeuwen B.H., Hardy C.M., Kerr P.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D123E486B7F4AC1D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  153 AA.
                                                                                                                                                 -!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AP-TSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17668 MW;
                                                                                                                                                                                                                                                                                  EMBL; D30710; BAA06378.1; -. EMBL; U28141; AAA68969.1; -. EMBL; U11689; AAA75360.1; -. HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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37
151
154
155 AA;
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
[3]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IL2_RABIT
077620;
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CARBOHYD
DISULFID
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CONFLICT
CONFLICT
CONFLICT
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
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IL2_RABIT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
"Sequence and functional characterization of feline interleukin 2.";
Biochem. Biophys. Res. Commun. 194:1038-1043(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTERLEUKIN-2.
O-LINKED (GALNAC. .) (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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01-0CT-1994 (Rel. 30, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-93356765; Pubmed-8352761;
Cozzi P.J., Padrid P.A., Takeda J., Alegre M.-A., Yuhki N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8173536B2DDD8B86 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69.9%; Score 107; DB 1;
67.7%; Pred. No. 4.7e-09;
iive 6; Mismatches 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21 APTSSSTKETQEQLDQLLLDLQVLLKGVNDY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. PRODOM: PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1.
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STHIFF HERE SOLD DAY STREET HE

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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Goodall J.C., Emery D.C., Bailey M., English L.S., Hall L.; "CDNA cloning of porcine interleukin 2 by polymerase chain reaction."; Biochim. Biophys. Acta 1089:257-258(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
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O-LINKED (GALNAC. . .) (BY SIMILARITY).
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Iwata H., Hasegawa A., Yamamoto M., Olda T., Endo Y., Inoue T.;

"Structure of the porcine chromosomal interleukin-2 gene.";

"Structure (APR-2000) to the EMBL/Genbank/DDBJ databases.

-i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR

MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL

PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!-SUBCELLULAR LOCATION: Secreted.
-!-SUBLICARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
Sus.
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SIGNAL 1 20 BY SIMILARITY.
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01-AUG-1992 (Rel. 23, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF)
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...75 7; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
67A8554A73BF30A0 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 97; DB 1;
Pred. No. 1.5e-07
4; Mismatches
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                                                                                                                                                                                                                                                                                                                  Interpro; IPR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRINTS; PR00265; INTERLEUKIN2. ProDom: PD003649; Interleukin-2; 1. SMART; SM00189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00424; INTERLEUKIN_2; 1.
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MEDLINE-91274360; PubMed-2054386;
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155 IN
23 O-
126 BY
17632 MW;
                                                                                                                                                                           EMBL; M22899; AAA41427.1; -. PIR; A31278. PIR; A45882, A45882. HSSP; P01585; 3INK.
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ilarity 64.5%;
Conservative
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CARBOHYD
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P26891;
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                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -I- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL PROLIEFRATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted
   ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            McKnight A.J., Mason D.W., Barclay A.N.; "Sequence of rat interleukin 2 and anomalous binding of a mouse interleukin 2 cDNA probe to rat MHC class II-associated invariant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INTERLEUKIN-2.
BY SIMILARITY.
N-LINKED (GLCMC. ..) (POTENTIAL).
KI -> RM (IN REF. 2).
F -> I (IN REF. 2).
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01-AUG-1990 (Rel. 15, Last sequence update)
15-UUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGGF).
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4.7e-09;
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                                 SUBCELLULAR LOCATION: Secreted. SIMILARITY: BELONGS TO THE IL-2 FAMILY.
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HSSP; PO1585; JN068.
HSSP; PO1585; JNR.
InterPro: IPR000779; Interleukin-2.
PFam; PF00715; IL2; I. NTERLEUKIN2.
ProDom; PD003649; Interleukin-2; I. SMART; SM00189; IL2; I. SMART; ILX SM00189; ILX SMART; ILX SM00189; ILX SMART; ILX SMART; ILX SMART; ILX SMART; ILX SMART; ILX SMART; IX SM00189; IX SMART; IX SM00189; IX SMART; IX SM00189; IX SMART; IX SM00189; IX SM00189; IX SMART; IX SM00189; IX 
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hes 21; Conservative
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154 AA;
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P17108;
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SEQUENCE
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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mai Z., Kousoulas K.G., Horohov D.W., Klei T.R.;
"Cross-species PCR cloning of gerbil (Meriones unguiculatus)
interfleukin-2 cDNA and its expression in COS-7 cells.";
Vet. Immunol. Immunopathol. 40:63-71(1994).
-i- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS. SUBCELLULAR LOCATION: Secreted. SIMILARITY: BELONGS TO THE IL-2 PAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Meriones unguiculatus (Mongolian jird) (Mongolian gerbil).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Gerbillinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
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16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 96; DB 1; Length 13% Pred, No. 2.1e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F3B95E43D4A3D3E1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  155 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21 APTSSSTKNTKKQLEPLLLDLQLLLKEVKNY 51
                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00115; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
                                                                                                                                                                                    EMBL, X58428; CAA41330.1; -. EMBL; AB041935; BAB16110.1; -. PIR; S15473; S15473. PIR; S16241; S16241; S16241; HSSP, P01585; 31NK. InterPro; IPR000779; Interleukin-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=94174702; PubMed=8128610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequ
16-0CT-2001 (Rel. 40, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17401 MW;
                                                                                                                                       EMBL; X56750; CAA40071.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      154 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. TISSUE-Spleen;
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DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              whale, Orcinus orca.";
Mar. Mamm. Sci. 14:531-543(1998).
-!- FUNCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTIGENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphinidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                           INTERLEUKIN-2.
O-LINKED (GALNAC. . .) (BY SIMILARITY).
BY SIMILARITY.
; DOF74AA1A381CDDA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ness T.L., Bradley W.G., Reynolds J.E. III, Roess W.B.; "Isolation and expression of the interleukin-2 gene from the killer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interpro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINIS; PR00265; INTERLEUKIN2.
PRODOM; PR003649; Interleukin-2; 1.
SMART; SW00189; IL2; 1.
SWART; SW00189; IL2; 1.
Cytckine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                                                                                                                                                                                              Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
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30-MAY-2000 (Rel. 39, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGGF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 155;
                                                                                                                                                                                                                                                                                                                                                                                                                           62.1%; Score 95; DB 1; Length 155
64.5%; Pred. No. 3.1e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY).
SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152 AA
                                                                                                                                                                                                                                                                                         BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21 APTSSPAKEAQOYLEQLLLDLQQLLRGINNY
PIR; S33509; S33509.
HSSP; P01589; 31NV.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                          PRINTS; PR00265; INTERLEUKIN2.
PRODOM; PU003649; Interleukin-2; 1.
SNART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                   20 BY
155 IN
23 O-
126 BY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                              21 1
23
78 1
155 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
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CONFLICT
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SEQUENCE
                                                                                             Query Match
                                                                                                                 Matches
                                                                                                                                                                                                             IL2_BOVIN
                                                                                                                                                                                                 RESULT 14
                                                                                                         Best
                                                                                                                                         οy
    SETTES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY.

INTERLEDKIN-2.

BY SIMILARITY.

O-LINKED (GALNAC. . .) (BY SIMILARITY).

N-LINKED (GLCNAC. . .) (POTENTIAL).

R -> K (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (NOV-1992) to the EMBL/GenBank/DDBJ databases.
-!-PONCTION: PRODUCED BY T-CELLS IN RESPONSE TO ANTICENIC OR
MITOGENIC STIMULATION, THIS PROTEIN IS REQUIRED FOR T-CELL
PROLIFERATION AND OTHER ACTIVITIES CRUCIAL TO REGULATION OF THE
IMMUNE RESPONSE. CAN STIMULATE B CELLS, MONOCYTES, LYMPHOKINE-
ACTIVATED KILLER CELLS, NATURAL KILLER CELLS, AND GLIOMA CELLS.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE IL-2 FAMILY.
                        . .) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
NCBL_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Immune response; Signal; Growth factor;
                                                                                                     ö
                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                                                                                                                                                                                                                                  Vandergrifft E.V., Horohov D.W.; "Molecular cloning and expression of equine interleukin 2."; Vet. Immunol. Immunopathol. 39:395-406(1993).
                                                                               Length 152;
                                                                              Score 88; DB 1; Length 152
Pred. No. 3.4e-06;
5; Mismatches 7; Indels
1 20 BY SIMILARITY.
21 >152 INPERLEUKIN-2.
23 23 0-LINKED (GALNAC. . .) (B: 78 126 BY SIMILARITY.
152 152 154 MW; 308F91821ECCB764 CRC64;
                                                                                                                                                                                                          149 AA
                                                                                                                            1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                         21 APTSSSTENTKKQVQSLLQDLQLLLKEINNY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; X69393; CAA49190.1; -. PIR; S11391; S31391. PIR; S11391; S31391. INSSP. P01585; 31NK. InterPro; IRR000779; Interleukin-2. Pfam; PF00715; IL2; 1. PRODOM; PD003649; INTERLEUKIN2. PRODOM; SMART; SM0189; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00424; INTERLEUKIN_2; 1 Cytokine; Glycoprotein; Immune res
                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-94160538; Pubmed-8116217;
                                                                                                     ;
9
                                                                                                                                                                                                                              01-OCT-1994 (Rel. 30, Created)
01-NOV-1995 (Rel. 32, Last seq
16-OCT-2001 (Rel. 40, Last ann
                                                                              57.5%;
58.1%;
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                                                                                                     Conservative
                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                      Equus caballus (Horse).
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149
121
23
106
                                                                                          Similarity
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SEQUENCE FROM N.A.
                                                                                                    18;
                                                                                                                                                                                                         IL2_HORSE
P37997;
                      CARBOHYD
DISULFID
NON_TER
SEQUENCE
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                                                                               Query Match
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                                                                                            Local
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  SIGNAL
                                                                                                     Matches
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                                                                                                                                                                                                                                         Gaps
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MEDLINE-86205869; PubMed-3517854;
Cerretti D.P., McKereghan K., Larsen A., Cantrell M.A., Anderson D.,
Gallila S., Cosman D., Baker P.E.;
"Cloning, sequence, and expression of bovine interleukin 2.";
Proc. Natl. Acad. Sci. U.S.A. 83:3223-3227(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
MEDLINE-86205870; PubMed-3486415;
Reeves R., Spies A.G., Nissen M.S., Buck C.D., Weinberg A.D.,
Barr P.J., Magnuson N.S., Magnuson J.A.;
"Molecular cloning of a functional bovine interleukin 2 cDNA.";
Proc. Natl. Acad. Sci. U.S.A. 83:3228-3232(1986).
                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TGF).
                                                                                                                                                                                             Length 149;
                                                                                                                                                                                                                                      6; Indels
  S -> A (IN REF. 2).

I -> M (IN REF. 2).

E -> G (IN REF. 2).

I -> F (IN REF. 2).

I -> F (IN REF. 2).

I -> M (IN REF. 2).

M; 051BBBGC47A0114FC CRC64;
                                                                                                                                                                         Score 85; DB 1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                     155 AA
                                                                                                                                                                                                                Pred. No. 9.468; Mismatches
                                                                                                                                                                                                                                                                                    1 APTSSSTKKTQLQLEHLLLKLQMILNGINN 30
                                                                                                                                                                                                                                                                                                                                21 APTSSSKRETQQQLKQLQMDLKLLLEGVNN 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M12791; AAA30586.1; -.
EMBL; M1204; AAA2143.1; ALF_INIT.
EMBL; X17201; CAA35662.1; -.
EMBL; X52687; CAA36912.1; -.
HSSP; P01585; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                          17086 MW;
                                                                                                                                                                                      55.6%;
ilarity 53.3%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovidae; Bovinae; Bos.
8
59
125
128
145
149 AA;
                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                             Ma.
Local S...
16;
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P05016;
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                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytokine; Glycoprotein; Immune response; Signal; Growth factor; T-cell.
                                                Cytokine; Glycoprotein; Immune response; Signal; Growth factor;
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                                                                                                                                                                                                                                                                                                                          01-JUN-1994 (Rel. 29, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Interleukin-2 precursor (IL-2) (T-cell growth factor) (TCGF).
                                                                                                                                                      Length 155;
                                                                                                                                                      47.1%; Score 72; DB 1; Length 155 llarity 50.0%; Pred. No. 0.0009; Conservative 6; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rimstad E.; Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases.
                                                                                          BY SIMILARITY.
O-LINKED (GALNAC. . .) (B:
V -> A (IN REF. 2).
R16667DFEA052EDF CRC64;
                                                                                                                                                                                                                                                                                       155 AA
                                                                      BY SIMILARITY.
                                                                                  INTERLEUKIN-2
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PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
SMART; SM00189; IL2; 1.
                                  PROSITE; PS00424; INTERLEUKIN_2; 1.
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ProDom; PD003649; Interleukin-2; 1.
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                                                                                                                   66 v
17627 MW;
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21
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23
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155 AA;
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SEQUENCE FROM N.A.
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                                                                                                                   CONFLICT
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Matches
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NO. 0.0009; Indels
                                                      PMO - OIP (IN REF. 2).
P -> T (IN REF. 2).
L -> P (IN REF. 2).
L -> P (IN REF. 2).
D -> A (IN REF. 2).
D -> A (IN REF. 2).
D -> E (IN REF. 2).
R -> L (IN REF. 2).
XMASLKG -> SMONIKR (IN REF. 2).
T -> I (IN REF. 2).
T -> I (IN REF. 2).
L -> M (IN REF. 2).
L -> M (IN REF. 2).
L -> M (IN REF. 2).
K, 90022DFBB6AF7BDE CRC64;
                              O-LINKED (GALNAC.
BY SIMILARITY INTERLEUKIN-2
                                                                                                                                                                                                                                                                          Pred. No. 0.006; Mismatches
                                              BY SIMILARITY
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                                                                                                                                                                                                                               17703 MW;
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50.0%;
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Best Local Similarity 50.0
Matches 15; Conservative
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155 AA;
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
11ctrleukln-2 (Fragment).
1nterleukln-2 (Fragment).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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150 AA; 17312 MW; BF25860F8436ACE5 CRC64;
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MATESANZ F., Delgado C., Fresno M., Alcina A.;
MALESANZ F., Delgado C., Fresno M., Alcina A.;
MALELIC selection of human IL-2 gene.";
Eur. J. Immunol. 30:3516-3521(2000).
EMBL; AF228636; AAG53575.1; -.
EMBL; AF228636; AAG53575.1; -.
EMBL; AF228636; INTERLEUKIN-2.
PRINTS; PRO00265; INTERLEUKIN2.
PRINTS; PRO00265; INTERLEUKIN2.
PRODOM: POO03649; ILL2; 1.
ENCOSTE; PRO0189; ILL2; 1.
ENCOSTE; PRO0189; ILL2; 1.
ENCOSTE; PRO0184; INTERLEUKIN-2; 1.
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P70294
P70292
Q8VW37
Q9DHS6
Q9PYUS
Q92V75
Q92V75
Q8TER8
Q8TER8
Q8TER8
Q9ERG8
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 Q9x338 papio hamad
Q13169 homo sapien
Q1634 homo sapien
Q9xE83 halichoerus
Q9bg74 canis famil
Q9L712 canis famil
Q92312 sigmodon hi
Q70329 mesocricetu
Q9mr39 oryctolagus
Q9ucf5 homo sapien
Q9xE84 delphinapte
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Q9gjr4 ovis aries
Q9g183 capra hircu ·
Q95kp3 bubalus bub
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264.918 Million cell updates/sec
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                                                                                   February 20, 2003, 10:03:07; Search time 24.1111 Seconds
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          GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd.
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Gapop 10.0 , Gapext 0.5
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St-Laurent G., Beliveau C., Archambault D.;
"Molecular cloning and phylogenetic analysis of beluga whale
(Delphinapterus leucas) and grey seal (Hallchoerus grypus) interleukin 2.";
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Pinnipedia; Phocidae; Halichoerus.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Elzenberg O., Faber-Elman A., Lotan M., Schwartz M.;
"Interleukin-2 transcripts in human and rodent brains: possible
expression by astrocytes.";
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                          SMART; SM00189; ILZ; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 156 AA; 18002 MW; 8E0452D43B336389 CRC64;
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Last annotation update)
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                         88.2%; Score 135.5; DB 4
88.2%; Pred. No. 2.3e-12;
iive 0; Mismatches 1
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Pred. No. 3.5e-12;
0; Mismatches 3.
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J. Neurochem. 64.1928-1936(1995).
BMBL; S77835, AAD14264.1;
HSSP; P01565; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRIDES; PR00265; INTERLEUKIN2.
PRODOM; PD003649; Interleukin-2; I.SMART; SM00189; IL2; 1.
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  ProDom; PD003649; Interleukin-2; 1.
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90.3%;
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                                                                                                                                      Ouery Match
Best Local Similarity 88.2
Matches 30; Conservative
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Q16334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
Q9XT83
     S 22 22
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                                                                                                                                                                                                                                                                                                             셤
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"Expression of human IL-2 from gene transferred mouse melanoma cells and its effect on the growth of mouse melanoma.";
Chung-Hua Min Kuo Wel Sheng Wu Chi Mien I Hsueh Tsa Chih
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murillo L.A., Hernandez E., Echeverry S.J., Mendez J.A., Moreno A.,
Patarroyo M.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94.8%; Score 145; DB 6; Length 154;
llarity 93.5%; Pred. No. 8.7e-14;
Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                     Actus lemurinus (Northern gray-necked night monkey),
Actus nancymaae (Owl monkey),
Actus nigriceps (Dlack-headed night monkey), and
Actus vociferans (night monkey).
Eukaryota; Metazca; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xu_L.;
Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
EMBL; U25676; AAA70092.1; -
HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PSO0424; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17675 MW; AB752ABBADA96469 CRC64;
                                                                           01-NOV-1999 (TrEMBLrel. 12, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                          154 AA
                                                                                                                                                                                                                                                                                                                                                                                              Cercopithecinae; Papio.
NCBL_TaxID-9557, 43147, 37293, 57175, 57176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        156 AA
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01-NOV-1996 (TrEMBLrel. 01, Last seq
01-DEC-2001 (TrEMBLrel. 19, Last ann
Interleukin 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003649; Interleukin-2; 1.
                                                                                                                                                                   IL-2.
Papic hamadryas (Hamadryas baboon),
Aotus lemurinus (Northern gray-neck
Aotus nancymaae (Owl monkey),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; P01585; 31NK.
Interpro; IPR000779; Interleukin-2.
Pfam: PF00115; 11.2; 1.
PRINTS; PR00265; INTERLEUKIN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interpro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL, U88365; AAD41538.1; --
EMBL, U88364; AAD41534.1; --
EMBL, U88361; AAD41535.1; --
EMBL, U88363; AAD41536.1; --
EMBL, U88362; AAD41536.1; --
EMBL, U88362; AAD41537.1; --
                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 29; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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Q13169;
                          95X50
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Gaps
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Darnell M.R., Pletneva L.M., Langley R.J., Blanco J.C., Prince G.A.;

Darnell M.R., Pletneva L.M., Langley R.J., Blanco J.C., Prince G.A.;

Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AFS98549; AAK94012.1;

EMBL, AFS98549; AAK94012.1;

PinterPro; IPR000715;

LL2: 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sigmodon hispidus (Hispid cotton rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-AUG-1998 (TEMBLrel. 07, Last sequence update)
01-CT-2001 (TEMBLrel. 18, Last annotation update)
Interleukin-2 (Fragment).
Mesocricetus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
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                                                                                                                                                                                                                                                                                                                                                                                                              Length 79;
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Prodom; PD003649; Interleukin-2; 1.
PROSITE; PS00424; INTERLEUKIN_2; UNKNOWN_1.
SEQUENCE 155 AA; 17627 MW; ACADEA865E993291 CRC64;
                                                                                                                                                                                                                                                                                                                                                      83079BF8F8A659BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                        Score 107; DB 6;
Pred. No. 2.1e-08;
6; Mismatches 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            155 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 TSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7 TSSSTKETEQOMEQLLLDLQLLLNGVNNY 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1998 (TrEMBLrel. 07, Created)
                                                                                                                                                                                                                                                                        PROSITE; PS00424; INTERLEUKIN_2; 1.
                                                                                                                                                                                                                                                                                                 NON_TER 1 1 79 79 79 79 SEQUENCE 79 AA; 9087 MW;
                                                                                                                                                                                                                                                                                                                                                                                                        69.98;
69.08;
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Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=42415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interleukin 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Markus S., Groene A., Baumgaertner W.; **Expression of canine interleukin-2 mRNA in concanavalin A-stimulated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                         Gaps
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Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                            Query Match 70.9%; Score 108.5; DB 6; Length 155; Best Local Similarity 71.9%; Pred. No. 2.5e-08; Matches 23; Conservative 5; Mismatches 3; Indels 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 107.5; DB 6; Length 66;
Pred. No. 1.5e-08;
6; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           canine lymphocytes.;
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AF333117; AAK01437.1; -..
HSSP; P01585; 11RL.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
PRODOM; PD03499; Interleukin-2; 1.
SWART; SM00189; IL2; 1.
                                                                     InterPro; IPR00779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
ProDom; PD003849; IL2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 155 AA; 17860 MW; F18F449AC672241A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66 AA; 7389 MW; 22A893F79DA2AE47 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Interleukin 2 (Fragment)
Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
Vet. Immunol. Immunopathol. 67:385-394(1999).
EMBL: AF072871; AAD40848.1; -.
HSSP; P01585; 31NK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                 21 APTISSIKETQQQLEQLLLDLRLLLNGVNNY 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14 APITSSSTKETEQQMEQLLLDLQLLLNGVNNY 45
                                                                                                                                                                                                                                                                                                                                                                                                        1 AP-TSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AP-TSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9BG74;
01-JUN-2001 (TIEMBLrel. 17, Created)
01-JUN-2001 (TIEMBLrel. 17, Last seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70.3%;
68.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-OCT-2001 (TrEMBLrel. 18,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Interleukin-2 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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SEQUENCE FROM N.A.
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Q9BG74
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SEQUENCE FROM N.A. MEDLINE-99221046; PubMed-10206205; MEDLINE-99221046; PubMed-10206205; St-Laurent G., Beliveau C., Archambault D.; St-Laurent G., Beliveau C., Polyogenetic analysis of beluga whale "Molecular cloning and phylogenetic analysis of beluga whale (Delphinapterus leucas) and grey seal (Halichoerus grypus) interleukin
                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
           01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
Interleukin 2 (Fragment).
Home sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Hono.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Delphinapterus leucas (Beluga whale).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti;
Monodontidae; Delphinapterus.
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                                                                                                                                                                            MEDLINE-93289963; PubMed-8512072;
Mullner S., Karbe-Thonges B., Tripler D.;
Mullner S., Karbe-Thonges B., Tripler D.;
"Charge heterogenetty of insulin fusion proteins expressed in
Escherichia coli is not due to proteolytic degradation.";
Anal. Biochem. 210:366-373(1993).
SEQUENCE 23 AA; 2637 MW; 40B64C6875CE021F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51.0%; Score 78; DB 6; Length 154; 51.6%; Pred. No. 0.00087; ive 7; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                   54.9%; Score 84; DB 4; Length 23;
85.7%; Pred. No. 1.7e-05;
Live 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4288D3D41D04F172 CRC64;
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
Interleukin 2 precursor.
Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TrEMBLrel. 12, Last sequence update) (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vet. Immunol. Immunopathol. 67:385-394(1999).
EMBL; AF072870; AAD40847.1; -.
HSSP; PO1585; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; IL.
PRWES; PR00255; INTERLEKIN2.
PRODOM; PD003649; Interleukin-2; 1.
PROSITE; SM0189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 154 AA; 17652 MW; 4288D3D41D04F172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          154 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1999 (TrEMBLrel. 12, Created) 01-NOV-1999 (TrEMBLrel. 12, Last seq 01-DEC-2001 (TrEMBLrel. 19, Last ann Interleukin 2.
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Best Local Similarity 51.69
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 85.73
Matches 18; Conservative
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                                                                                                                   NCBI_TaxID=9606;
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                                                                                                                                                             SEQUENCE
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09XT84;
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088210
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TISSUE-SPLEEN;

WEDLINE-98234044; PubMed-9573100;

A Melby P.C., Tryov V.V., Chandrasekar B., Freeman G.L.;

A Melby P.C., Tryov V.V., Chandrasekar B., Freeman G.L.;

Taloning of Syrian hamster (Mesocricetus auratus) cytokine cDNAs and Stranger analysis of cytokine mRNA expression in experimental visceral analysis of cytokine mRNA expression in experimental visceral brashmanists.,

Infect. Immun. 66:2135-2142(1998).

BR EMBL; AF046212; AAC40097.1; -.

DR FRISS: PO1585; 31NK.

DR PRODON; PRO0055; Interleukin-2.

DR PRINTS: PRO00565; INTERLEUKIN2.

DR PRINTS: PRO00565; INTERLEUKIN2.
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TISSUE-SPLEEN, AND LYMPH NODE;
MEDLINE-20104414; PubMed-10843729;
MEDLINE-20204414; PubMed-10843729;
MEDLINE-20204414; PubMed-10843729;
MEDLINE-20204414; PubMed-10843729;
The complete cDNA sequences of IL-2, IL-4, IL-6 and IL-10 from the European rabbit (oryctolagus cuniculus).";
EMBL, AF169168; AAF86652.1; -...
HSSP; PO1885; 31NK.
InterPro; IPR000779; Interleukin-2.
Pfam; PF0015; IL2: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oryctolagus cuniculus (Rabbit).
Sukaryota, Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
NCBI_TaxID=9986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64.7%; Score 99; DB 6; Length 133; 69.0%; Pred. No. 5.6e-07; Live 5; Mismatches 4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00424; INTERLEUKIN_2; 1.
SEQUENCE 133 AA; 14748 MW; 0D54758C190B5655 CRC64;
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE 138 AA; 15739 MW; 351032995B670779 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-007-2000 (TrEMBLrel. 15, Created)
01-007-2000 (TrEMBLrel. 15, Last sequence update)
01-007-2001 (TrEMBLrel. 19, Last annotation update)
Interleukin 2 variant IL2delta2.
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(TrEMBLrel. 13, Last sequence update)
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                                                                                                                                                                                                                                                                                     SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
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RESULT 10

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RESULT 11

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Q9UCF5

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Search completed: February 20, 2003, 10:06:22 Job time : 25.1111 secs
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            RESULT 15
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STRAIN-SHEEP 2, AND SHEEP 1;
Luchken G., Prinzenberg E.-M., Hiendleder S., Erhardt G.;
"A single strand conformation polymorphism in the ovine interleukin 2
"A single strand conformation polymorphism in the ovine interleukin 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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Mammalla; Butheria; Rodentia; Hystricognathi; Caviidae; Cavia.
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                                                  TISSUE-SPLEEN;
TISSUE-SPLEEN;
TARAYOShi M., Iwata H., Inoue T.;
Guinea pig Interleukin 2(IL-2) precursor.";
Gubmitted (JAN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL: AB010093; BAA31346.1;
HSSP; P01585; 11RL.
InterPro; IPR000779; Interleukin-2.
Pfam; PF00715; IL2; 1.
PRINTS; PR00265; INTERLEUKIN2.
Probom; P0003649; Interleukin-2; 1.
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Pred. No. 0.0031;
6; Mismatches 9; Indels
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CHAIN 21 152 INTERLEUKIN 2.
SEQUENCE 152 AA; 17271 MW; CA7AC08C1B8DD1FA CRC64;
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1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Interleukin 2 precursor (Fragment).
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INTERLEUKIN 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (IL-2) gene.;
J. Anim. Sci. 0:0-0(2000).
EMBL; AF215667; AAG43986.1; -
EMBL; AF213883; AAG35709.1; -
HSSP; P01585; 11RL.
INTERPRO; IPRO000715; Interleukin-2.
Pfam; PP00715; IL2; 1.
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ProDom; PD003649; Interleukin-2; 1.
SWART; SM00189; IL2; 1.
Signal.
1 21 POTENT:
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50.0%;
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>69
                                          SEQUENCE FROM N.A.
                     NCBI_TaxID=10141;
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69
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SEQUENCE
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SIGNAL
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Q9GJR4;
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                                                                                                                                                                                    Capra hircus (Goat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea;
Bovidae; Caprinae; Capra.
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                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.

Ying O.H., Li X.R., Pan J.Y.;

"Cloning of the goat IL-2 gene and its expression in E.coli.";

Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; AF307018; AAG28783.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 155;
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Best Local Similarity 50.0%; Pred. No. 0.0069;
Matches 15; Conservative 6; Mismatches 9; Indels
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PRINTS; PR00265; INTERLEUKIN2.
PROD03649; INTERLEUKIN2; 1.
SMART; SM00189; IL2; 1.
PROSITE; PS00424; INTERLEUKIN_2; 1.
SRQUENCE 155 AA; 17605 MW; EEEB2DE18F5469AA CRC64;
                                                                                    Last sequence update)
Last annotation update)
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                                                              Created)
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InterPro; IPR000779; Interleukin-2.
          PRT;
Q9GL83;
Q9GL83;
Q1-MAR-2001 (TrEMBLrel. 16, C
01-MAR-2001 (TrEMBLrel. 16, L
01-DEC-2001 (TrEMBLrel. 19, L
Interleukin 2.
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                                                                                                         Sequence 2, Ap-
Sequence 2, Ap-
Sequence 2, Ap-
Sequence 29, Ap-
Sequence 61, Ap-
Sequence 6, Ap-
Sequence 3, Ap-
Sequence 3, Ap-
Sequence 3, Ap-
Sequence 3, Ap-
Sequence 63, Ap-
Sequence 64, Ap-
Sequence 64, Ap-
Sequence 64, Ap-
Sequence 68, A
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                                                                                    Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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Sequence 13, Application US/08127351
Fatent No. 5449761
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: ALVAREZ, VERNON L.
TITLE OF INVENTION: METAL-BINDING TARGETED POLYPEPTIDE
TITLE OF INVENTION: ONSTRUCTS
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESSE: OBLON, SPIVAK, MCCLELLAND, MAIER 6
ADDRESSEE: NEUGYADT,
ADDRESSEE: NEUGYADT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 50;
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/127,351
FILING DATE: 28-SEP-1993
CLASSIFICATION NUMBER: 4980-004-44
FILING DATE: ABSEP-1993
TATORNEY/AGENT INFORMATION:
NAME: V111acorta, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELEPHONE: (703) 413-220
TELEFAX: (703) 413-220
TELEFAX: (703) 413-220
TELEFAX: (703) 413-220
TELEFAX: SOURCE SEQ ID NO: 13:
SEGUENCE CHARACTERISTICS:
FUNDAMATION FOR SEQ ID NO: 13:
SEGUENCE GRARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..., MCUELLAND, MAIER 6
..., MCUELLAND, MAIER 6
STREET: 1755 S. Jefferson Davis Highway, Suite
STREET: Virginia
COUNTRY: U.S.A.
MPHTMET: 12202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 147; DB 1;
Pred. No. 1.1e-15;
0; Mismatches 1;
                                              5314995-7

US-08-818-562-2

US-08-155-848-2

US-07-932-915-2

PCT-US912-915-2

PCT-US912-915-2

US-08-875-811-61

US-08-875-811-61

US-09-116-594-2

US-09-116-594-2

US-09-570-921-68
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US-08-383-621-5
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96.8%;
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Best Local Similarity 96.8
Matches 30; Conservative
; MOLECULE TYPE: peptide US-08-127-351-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
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Sequence 1, Appli
Sequence 3, Appli
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Sequence 3, Appli
Patent No. 5210029
Patent No. 5256769
Patent No. 5464939
Patent No. 5464939
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                  February 20, 2003, 10:04:02; Search time 19.1905 Seconds (without alignments) 47.529 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 13, Sequence 13, Sequence 13, Sequence 13, Sequence 13, Sequence 1, A Sequence 2, A Sequence 2, A Sequence 1, A Sequence 2, A Sequence 3, A Sequence 3, A Sequence 2, A Sequence 2, A Sequence 3, A Sequenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
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/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                       GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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US-08-480-3678-13
US-08-480-37-18-13
US-08-160-370-13
US-08-160-376-15
US-08-380-487-8
US-08-389-487-8
US-08-389-487-8
US-08-215-24-3
US-08-215-24-3
US-08-216-213-89
US-08-218-193-89
US-08-218-193-89
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US-09-012-366-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                   OM protein - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length: 0
length: 2000000000
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Match Length
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Maximum DB seq
                                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
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SERVETA INFORMATION:
SERVETA INFORMATION:
APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
APPLICANT: MOOD, RICHARD I.
APPLICANT: ADDRESS:
RICHARD OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
ADDRESSEE: NEUSTADT,
ADDRESSEE: NEUSTADT,
ADDRESSEE: P.C.
STREET: 1755 S. Jefferson Davis Highway, Suite 400
CITY: ALIINGTON
STRATE: VIIGHTON
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96.1%; Score 147; DB 1; Length 50; 96.8%; Pred. No. 1.1e-15; ive 0; Mismatches 1; Indels
: 1755 S. Jefferson Davis Highway, Suite 400 Arlington
                                                                                COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
GUSTRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,221A
FILING DATE: 07-JUN-1995
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/487,221A
FILING DATE: 308-1293
ATTORNEY/AGENT INFORMATION:
NAMME: V11Acorta, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMMUNICATION INFORMATION:
TELEPHON: (703) 413-220
TELEFPAN: (703) 413-220
TELEFPAN: (703) 413-220
TELEFPAN: (703) 413-220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 50 main acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC COMPATIBLE
OPERATING SYSTEM: FC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 13, Application US/08480370 Patent No. 5609847 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 96.1
Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-08-487-221A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid
                                                Virginia
                                                                    U.S.A.
                        CITY: Arl
STATE: VI
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-480-370-13
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                                                                                                                                        Sequence 13, Application US/08480367B
; Sequence 13, Application US/08480367B
; Patent No. 557828B
; GENERAL INFORMATION:
; APPLICANT: BELINKA Jr, BENJAMIN A.
APPLICANT: COUGHLIN, DANIEL J.
; APPLICANT: MOOD, RICHARD
; TITLE OF INVENTION: ONSTRUCTS
; TITLE OF INVENTION: CONSTRUCTS
; NUMBER OF SEQUENCES: 56
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LOWE, PRICE, LEBLANC & BECKER
; STREET: 99 Canal Center Plaza, Suite 300
; CITY: Alexandria
; STREET: VITGIN a
; COUNTRY: U.S.A.
; COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 96.1%; Score 147; DB 1; Length 50; Best Local Similarity 96.8%; Pred. No. 1.1e-15; Matches 30; Conservative 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER FALABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARING SYSTEM: PC-DOS/MS-DOS
SOFTWARING SYSTEM: BC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/480,367B
FILING DATE: 07-06-95
CLASSIFICATION: 424
ATYONEY/AGENT INFORMATION:
NAME: VALIBGORTA, Gliberto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 2654-002A
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 100-1111
1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                        1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 13: SEQUENCE CHARACTERISCICS: LENGTH: 50 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; MOLECULE TYPE: peptide US-08-480-3678-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                   US-08-480-367B-13
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96.1%; Score 147; DB 1; Length 96;
Best Local Similarity 96.8%; Pred. No. 2.4e-15;
Matches 30; Conservative 0; Mismatches 1; Indels
                                Length 88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Kenneth A. Genoni, Esq.
STREET: Rt. 202-206 No. 5473049th/P.O. Box 2500
CITY: Somerville
STATE: New Jersey
COUNTRY: U.S.A.
ZIP: 08876-1258
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM 386
OPERATING SYSTEM: WINDOWS 3.1
                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Obermeier, Ranier
APPLICANT: Gerl, Martin
APPLICANT: Gerl, Martin
APPLICANT: Sabel, Walter
TITLE OF INVENTION: Process For Obtaining Proinsulin
TITLE OF INVENTION: Possessing Correctly Linked
TITLE OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
                                Score 147; DB 4;
Pred. No. 2.2e-15;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NOMER: US/08/160,376A
FILING DATE: December 1, 1993
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: GE P 4240420.7
FILING DATE: December 2, 1992
ATTORNEY/AGENT INFORMATION:
AMME: BAIDARA V. MAURER: 31,287
REGISTRATION NUMBER: 31,287
REGISTRATION NUMBER: 31,287
REGISTRATION NUMBER: 31,287
TELEPHONE: (908) 231-4079
TELEPHONE: (908) 231-4079
TELEPHONE: (908) 231-255
INFORMATION FOR SEC ID NO: 5: SEQUENCE CHARACTERISTICS:
LEMETH: GO ADIA STATE STATES
TYPE: Amino Acid (AA)
TYPE: Amino Acid (AA)
                                                                                                                                                        3 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 32
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                                                                                                                             1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                  US-08-160-376A-5
; Sequence 5, Application US/08160376A
; Patent No. 5473049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 8, Application US/08389487
Patent No. 5663291
GENERAL INFORMATION:
APPLICANT: Obermeier, Rainer
APPLICANT: Gerl, Martin
APPLICANT: Ludwig, Jurgen
                                  96.1%;
96.8%;
                                Query Match 96.1
Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 15, Application US/08817787
Patent No. 6294353
GENERAL INFORMATION:
APPLICANT: Pack, Peter
APPLICANT: Lupas, Andrei
TITLE OF INVENTION: TARGETED HETERO-ASSOCIATION OF
TITLE OF INVENTION: TARGETED HETERO-ASSOCIATION OF
CORRESPONDENCE: 36
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                96.1%; Score 147; DB 1; Length 50; 96.8%; Pred. No. 1.1e-15; tive 0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: TOUGO
COMPUTER: FLORM:
MEDIUM TYPE: FLORM:
MEDIUM TYPE: FLORDY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARR: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/817,787
FILING DATE: 23-SEP-1997
CLASSIFICATION DATA:
APPLICATION NUMBER: PCT/EP95/04117
FILING DATE: PRIOR APPLICATION DATA:
APPLICATION NUMBER: EP 94 11 6558.1
FILING DATE: 20-CCT-1994
ATTORNEY/AGENT INPOWMATION:
NAME: Haley Jr., James F.
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: 27,794
REFERENCE/DOCKET NUMBER: 27,794
REFERENCE/DOCKET NUMBER: 21,794
RELEPHONE: 212-596-9000
TELEFRAR: 212-596-9000
APPLICATION NUMBER: US 08/127,351
FILING DATE: 2B-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: V11Acorta, G1berto M.
REGISTRATION NUMBER: 34,038
REFERENCE/DOCKET NUMBER: 4980-004-44
TELECOMUNICATION INFORMATION:
TELEPRONE: (703) 413-3000
TELEPRONE: (703) 413-3220
TELEPRONE: (703) 413-2220
TELERX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERICS:
LENGTH: 50 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 1251 Avenue of the Americas CITY: New York STATE: New York COUNTRY: USA ZIP: 10020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 96.89
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 88 amino acids
                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-08-480-370-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: protein US-08-817-787-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
3Y: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-817-787-15
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GENERAL INFORMATION:

APPLICANT: Ralph, Peter
APPLICANT: Matin, George
APPLICANT: Diatek, Michael
APPLICANT: Latrick, James W.
TITLE OF INVENTION: Therefor
TITLE OF INVENTION: Therefor
COMBESPONDENCE ADDRESS:
ADDRESSEE: CHIRON CORPORATION
                                                                                                                                                                                                                                                                                                                                                                           96.1%; Score 147; DB 1; Length 133; 96.8%; Pred. No. 3.6e-15; 1ve 0; Mismatches 1; Indels
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CURRENT APPLICATION DATA:

CURRENT APPLICATION DATA:

APPLICATION NUBBER:

FILING DATE: 12-DEC-1994

CLASSIFICATION NUBBER: 05/995,338

FILING DATE: 21-DEC-1992

CLASSIFICATION: 435

PREPLICATION NUBBER: 07/995,338

FILING DATE: 21-DEC-1992

CLASSIFICATION: 435

APPLICATION NUBBER: 31,395

ATTORNEY/AGENT INFORMATION:

NAME: MCGATTIGLE JT., Philip L.

REGISTRATION NUBBER: 35,003/32387

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION SEQ ID NO: 5:

CENTRAL (510) 655-3542

TELEERS: n/a

INPORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                     41417(281)
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COUNTRY: U.S.A.
ZIP: 9466-8097
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Sequence 5, Application US/08354456A
; Patent No. 5567611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: CHIRON CORPORATION Intellectual Property
  NAME: Castle, Donald R
REGISTRATION NUMBER: 24,220
REFERENCE/DOCKET NUMBER: 4141
TELECOMMUNICATION INFORMATION:
TELEFHONE: (617)523-3400
TELEFAX: (617)523-3440
TELEFAX: (617)523-3440
TELEFAX: (617)523-3440
TELEFAX: 200291 STRE UR
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
                                 24,220
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TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 96.8
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                               ; MOLECULE TYPE: protein US-07-800-366-1
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STATE: California
                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-354-456A-5
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APPLICANT: OCTSU, KOICHIFO

APPLICANT: OCTSU, KOICHIFO

TITLE OF INVENTION: INTERLEUKIN-2 AND 5'-DEOXY-5-FLUOROURIDINE
TITLE OF INVENTION: INTERLEUKIN-2 AND 5'-DEOXY-5-FLUOROURIDINE
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS 6

ADDRESSEE: CUSHMAN
STREET: 130 Water Street
CITY: Boston
STATE: Massachusetts
COUNTRY: US
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APPLICANT: Sabel, Walter
TITLE OF INVENTION: Process for Obtaining Insulin Having
TITLE OF INVENTION: Correctly Linked Cystine Bridges
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
ADDRESSEE: Dunner
                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LIB PC compatible
COMPUTER: PLOPPY disk
COMPUTER: PLOPPY disk
COMPUTER: PE-LOPPY disk
COMPUTER: PE-LOPPY disk
COMPUTER: PATENTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/389,487
FILING DATE:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02481.1424-00000
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                                                                                                                                                                                                                             STATE: D.C. COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/07/800,366
FILING DATE: 19911127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 530
ATTORDEY/AGENT INFORMATION:
NAME: Elnaudi, Carol P.
REGISTRATION NUMBER: 32,220
REFRENCE/POCKET UNMBER: 0248:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/07800366
Patent No. 5250296
                                                                                                                                              ADDRESSEE: Dunner
STREET: 1300 I Street, N.W.
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 19911127
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 202-408-4400
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 96 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-389-487-8
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STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS PROTEINS FROM STREPTOMYCES
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APPLICANT: ZUTAWSKI, GETARD
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
CUTY: Palo Alto
ALTO
CUTY: Palo Alto
CUTY: Palo Alto
CUTY: Palo Alto
ALTO
CUTY: PALO
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CUTY: PALO
ALTO
ALTO
                                                                                                                                                                                                                                                                                                                                                                  ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: PLOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/318,193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 147; DB 1;
Pred. No. 3.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: 435
PRIOR APPLICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,314
FILING DATE:
APPLICATION NUMBER: US 07/224,568
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENE/COCKET NUMBER: 18740/116 CACO
TELEPHONE: (703)836-9300
TELEPHONE: (703)836-9300
TELEPHONE: (703)836-9300
TELEX: 899149
INFORMATION FOR SEQ ID NO: 89:
SEQUENCE CHARACTERISTICS:
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                                                                                                      STREET: 1800 Diagonal Road, Suite 500 CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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FILING DATE: 01-AUG-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application US/08284393B Patent No. 5696234 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : 133 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 96.8'
Matches 30; Conservative
    TITLE OF INVENTION: STIM
TITLE OF INVENTION: PROI
UNDER OF SEQUENCES: 91
CORRESPONDENCE ADDRESSE:
ADDRESSEE: FOLEY & LAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-318-193-89
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                                                                                                                                                                                                                                                                                                                                        COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-284-393B-1
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Patent No. 5641663
GENERAL INFORMATION:
APPLICANT: MALEK, Lawrence T.
APPLICANT: MALEK, Lawrence T.
TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION
TITLE OF INVENTION: OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3. Application US/08225224
; Patent No. 563559
; GENERAL INFORMATION:
    APPLICANT: PASTAN, Ira
    APPLICANT: RELITMAN, ROBERT J.
    TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS AND
    TITLE OF INVENTION: CIRCULARLY PERMUTATED LIGANDS
    CORRESPONDENCE ADDRESS: 57
    CORRESPONDENCE ADDRESS: 77
    CORRESPONDENCE ADDRESS: 77

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        Length 133;
                                                                                         1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US

ZIP: 94105-1493

COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/225,224
FILING DATE: 8-APR-1994
CLASSIFICATION: 530
    Score 147; DB 1;
Pred. No. 3.6e-15;
0; Mismatches 1;
                                                                                                                                                                                                                 1 APTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
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                                                                                                                                                                      1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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OTHER INFORMATION: /label- IL2
US-08-225-224-3
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NAME: Weber, Ellen L.
REGISTATION UNDRER: 1528C
REFERENCE/DOCKET MINBER: 1528C
TELECOMMUNICATION INFORMATION:
TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
        96.1%;
96.8%;
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TYPE: amino acid
STRANDEDNESS: unknown
                                                                                         30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: unknown
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Matches
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Patent No. 5800810
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Doyle, Michael V.
APPLICANT: Nunberg, Jack H.
APPLICANT: Winher, Thomas J.
TITLE OF INVENTION: HUMAN IL-2 AS A VACCINE ADJUVANT NUMBER OF SEQUENCES:
ADDRESSEE: Chiron Corporation, Intellectual Property R440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96.1%; Score 147; DB.1; Length 133; 96.8%; Pred. No. 3.6e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1; Indels
                                                                                                                                           APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCE: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                  COMPOURE: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTAMRE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX0389
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
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COUNTRY: United States of America
ZIP: 94662-8097
                                                                                  Sequence 3, Application US/08284393B
Patent No. 5696234
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                     ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 133 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 415-496-1200
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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MOLECULE TYPE: peptide
US-08-284-393B-3
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CITY: Emeryville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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Matches 30; Conserva
                                                            US-08-284-393B-3
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: TBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX0389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TILE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                    Score 147; DB 1;
Pred. No. 3.6e-15;
0; Mismatches 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
STATE: California
CUNTRX: USA
IP: 94304-1104
                 NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: DX0389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/08284393B Patent No. 5696234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-496-1200
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
TELEFAX: 415-496-1200
                                                                                                                                                                                                                                                                                                                                  Query Match 96.1%;
Best Local Similarity 96.8%;
Matches 30; Conservative
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96.8%;
                                                                                                                         TELEFAX: 415-496-1200 INFORMATION FOR SEQ ID NO: 1:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 133 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133 amino acids
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Best Local Similarity 96.89
                                                                                                                                                                                                                                                 TOPOLOGY: linear

MOLECULE TYPE: peptide

US-08-284-3938-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
US-08-284-393B-2
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/734,471
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION HOWER: US 08/448,884
FILING DATE: 24-MAY-1995
ATFORNEY/AGENT INFORMATION:
NAME: MCCLUNG, Barbara G.
REGISTRATION NUMBER: 33,113
REFERENCE/DOCKET NUMBER: 33,113
FELEPAN: (510) 601-2585
TELEPAN: (510) 601-2585
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 133 annino acids
TYPE: annino acids
MULECULE TYPE: protein
US-08-734-471-1
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Search completed: February 20, 2003, 10:08:11 Job time: 20.1905 secs

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Sequence 1, Appli Sequence 10, Appli Sequence 12, Appl Sequence 29, Appl Sequence 29, Appl Sequence 1005, Appl Sequence 1031, Appl Sequence 93, Appl Sequence 93, Appl Sequence 94, Appl Sequence 97, Appl Sequence 97, Appl Sequence 87, Appl Sequence 13, Appl Sequence 13935, Ap Sequence 13935, Ap Sequence 1589, Appl Sequence 1589, Appl Sequence 1777, Appl

Sequence 177, App Sequence 191, App Sequence 10072, A

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Sequence 1, Application US/10051657A

Sequence 1, Application US/10051657A

Sequence 1, Application US/10051657A

Patent No. US20020164300A1

GENERAL INFORMATION:
TITLE OF INVENTION: Interleukin-2 Mutein Expressed from Mammalian Cells
TITLE OF INVENTION: Interleukin-2 Mutein Expressed from Mammalian Cells
CURRENT FILING DATE: 2002-04-29

NUMBER OF SEQ ID NOS: 1

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1
Score 147; DB 9; L
Pred. No. 2.6e-15;
0; Mismatches 1;
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US-09-766-543-8
Sequence 8, Application US/09766543
Sequence 8, Application US/09766543
Sequence 8, Application US/09766543
Sequence 8, Application US/09766543
Sequence 9, Application Nation 1
SERVICANT: Rook, Cheuk S.
APPLICANT: Rook, Cheuk S.
APPLICANT: Ring, David B.
TITLE OF INVENTION: METHODS FOR TREATING TUMORS
STILE REPREDRED FOR TREATING TUMORS
CURRENT APPLICATION NUMBER: US/09/766,543
CURRENT FILING DATE: 2000-01-19
SPRIOR FILING DATE: 2000-01-20
                                                                                                                                                                                                                                                                                                                                          US-09-841-132-177
US-09-841-132-191
US-09-815-242-10072
                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 96.8%;
Matches 30; Conservative
   ORGANISM: Homo sapiens
   US-10-051-657A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 133
                                                                         TYPE: PRT
   sequence 8, Appli
Sequence 11, App
Sequence 11, Appli
Sequence 14, Appli
Sequence 2, Appli
Sequence 11, Appli
Sequence 6, Appli
Sequence 26, Appli
Sequence 26, Appli
Sequence 11373, A
Sequence 1, Appli
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                                                                                                                   (without alignments)
100.599 Million cell updates/sec
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                                                                                                     February 20, 2003, 10:05:07; Search time 7.87302 Seconds
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                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore version 5.1.3
Copyright (c) 1993 - 2003 Compugen Ltd
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0 US-09-149-721-3
0 US-09-923-246-111
0 US-09-923-698A-5
0 US-09-822-698A-5
0 US-09-033-525-2
0 US-09-835-147-11
0 US-09-835-147-10
0 US-09-835-147-6
0 US-09-835-147-6
0 US-09-835-147-8
0 US-09-835-147-280
0 US-09-831-752A-280
0 US-09-831-752A-280
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US-09-810-997-1
US-09-864-761-36104
                                                                                                                                                                                           1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
                                                                                                                                                                                                                                                                                             Potal number of hits satisfying chosen parameters:
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US-10-013-379-25
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                                                                                                                                                                                                                                                                   140259 seqs, 25548876 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                   Published_Applications_AA:*
                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                           OM protein - protein search, using sw model
                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0 , Gapext 0.5
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Match Length
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Maximum DB s
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Gaps

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Length 133;

Result

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APPLICANT: Hoogenboom, Hendricus R.J.M.
APPLICANT: Hoogenboom, Hendricus R.J.M.
APPLICANT: Henderikx, Maria P.G.
TILE OF INVENTION: MUCIN-1 Specific Binding Members and Methods of Use Thereof
FILE REFERENCE: DXX-015.1 US
CURRENT APPLICATION NUMBER: US/09/822,698A
CURRENT APPLICATION NUMBER: US 09/538,913
PRIOR FILING DATE: 2000-03.30
NUMBER OF SEQ ID NOS: 112
SOFTWARE: Microsoft Word
SEQ ID NO 5
LENGTH: 381
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  PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/142,013 PRIOR FILING DATE: 1999-07-01 NUMBER OF SEQ ID NOS: 115 SOFTWARE: PastSEQ for Windows Version 3.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: MUC1-specific immunocytokine bivPH1-IL-2
                                                                                                                                                                                                                                                                 1; Indels
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Patent No. US20202041865A1
GENERAL INFORMATION:
APPLICANT: Austin, Richard
APPLICANT: Rwck, Cheuk S.
APPLICANT: Rwck, Cheuk S.
TITLE OF INVENTION: METHODS FOR TREATING TUMORS
FILE REFERENCE: PP01679.002
CURRENT APPLICATION NUMBER: US/09/766,543
CURRENT APPLICATION NUMBER: 60/17,258
PRIOR FILING DATE: 2000-01-19
PRIOR FILING DATE: 2000-01-20
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                    DB 10;
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                                                                                                                                                                                                                                                               0; Mismatches
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96.8%;
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Best Local Similarity
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Matches 30; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                   ; ORGANISM: HOMUS-09-923-246-111
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LENGTH: 133
                                                                                       SEQ ID NO 111
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APPLICANT: Mumper, Russ; Tagliaferil, Frank
TITLE OF INVENTION: HYDROPHOBIC GLYCOSYLAMINE DERIVATIVES, COMPOSITIONS, AND METHODS
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CURRENT FILING DATE: 2001-08-03
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US/09/522,217
PRIOR FILING DATE: EARLIER FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/123,904
PRIOR FILING DATE: EARLIER FILING DATE: 1999-03-11
                                                                                                                                                   ; OTHER INFORMATION: Description of Artificial Sequence: human IL-2 US-09-766-543-8
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                                                                                                                                                                                                                Length 133;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Hammond, Angela K.
TITLE OF INVENTION: NOVEL CYTOKINE ZALPHAll LIGAND
FILE REFERENCE: 99-16
                                                                                                                                                                                                                Score 147; DB 10;
Pred. No. 2.6e-15;
0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: 237/023
CURRENT APPLICATION NUMBER: US/09/149,721
CURRENT FILING DATE: 1998-09-08
PRIOR FILING DATE: 1997-09-08
NUMBER OF SEQ ID NOS: 3
SEQ ID NO 3
LENGTH: 153
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GENERAL INFORMATION:
APPLICANT: No. US20020128446A1ak, Julia E.
                                                                                                                                                                                                                                                                                                       1 APTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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                                                                                                         ORGANISM: Artificial Sequence
                                                                                                                                                                                                                Query Match 96.1%;
Best Local Similarity 96.8%;
Matches 30; Conservative
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 8
LENGTH: 133
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Best Local Similarity 96.87
Matches 30; Conservative
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US-09-923-246-111
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APPLICANT:
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Sequence 8, Application US/09835147

Patent No. US200200227741

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gayle III, Richard B.

APPLICANT: Gimpel, Steven D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FITLE REFERENCE: 2879-08

CURRENT FILING DATE: 2001-04-13

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-11-06

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR PLICATION NUMBER: US 60/149,010

PRIOR PLICATION NUMBER: US 60/149,010

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13

PRIOR FILING DATE: 1999-08-13
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APPLICANT: Gayle III, Richard B.
APPLICANT: Price, Virginia L.
APPLICANT: Gimpel, Steven D.
TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2879-US
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37.3%; Score 57; DB 10; Length 454; 100.0%; Pred. No. 0.54; 1.1ve 0; Mismatches 0; Indels
                                                                                       Length 43;
                                                                                                                                        Indels
                                                                                  Query Match 37.3%; Score 57; DB 10; Le Best Local Similarity 100.0%; Pred. No. 0.031; Matches 12; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR PILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-10-16
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1998-11-06
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-10-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: PATENT NOS: 31
     ; OTHER INFORMATION: construct of human CD39 US-09-835-147-11
                                                                                                                                                                                                                                                                                                                                                                           Sequence 6, Application US/09835147 Patent No. US2002000227781
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Best Local Similarity 100.
Matches 12; Conservative
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US-09-835-147-8
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Patent No. US2002000227741

GENERAL INFORMATION:

APPLICANT: Maliszewski, Charles R.

APPLICANT: Maliszewski, Charles R.

APPLICANT: Gimpel, Stewen D.

TITLE OF INVENTION: Inhibitors of Platelet Activation and Recruitment File REFERENCE: 2879-US

CURRENT APPLICATION NUMBER: US/09/835,147

CURRENT FILING DATE: 1999-10-16

PRIOR PLICATION NUMBER: US 60/104,585

PRIOR PLICATION NUMBER: US 60/107,466

PRIOR FILING DATE: 1999-11-06

PRIOR FILING DATE: 1999-11-06

PRIOR FILING DATE: 1999-08-13

PRIOR PLICATION NUMBER: US 60/149,010

PRIOR FILING DATE: 1999-10-13

PRIOR PRIOR OFFER INVERSER: US 60/149,010

PRIOR PRIOR OFFER INVERSER: US 60/149,010
                                                                                                             Gaps
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APPLICANT: Yarkoni, Ahmi
APPLICANT: Ben-Yehudah, Ahmi
APPLICANT: Azar, Yehudith
APPLICANT: Agailan, Rami
APPLICANT: Belotstotsky, Ruth
APPLICANT: Lorberboum-Galski, Haya
TITLE OF INVENTION: CHIMERIC PROFEINS WITH CELL-TARGETING
TITLE OF INVENTION: SPECIFICITY AND APOPTOSIS-INDUCING ACTIVITIES
FILE REFERENCE: 9457-009-999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 331;
                                                            Length 133;
                                                                                                          1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                   Query Match 93.5%; Score 143; DB 10; Best Local Similarity 96.7%; Pred. No. 1e-14; Matches 29; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 143; DB 10;
Pred. No. 3.1e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/033,525
CURRENT FILING DATE: 1998-03-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 PTSSSTKKTQLQLEHLLLDLQMILNGINNY 33
                                                                                                                                                                                    2 PTSSSTKKTQLQLEHLLLDLQMILNGINNY 31
                                                                                                                                                           PTSSSTKKTQLQLEHLLLKLQMILNGINNY 31
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96.78;
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SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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US-09-033-525-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
US-09-766-543-14
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LENGTH: 331
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APPLICANT: Haselbeck, Robert
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Matches 12; Conservative
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US-09-815-242-11373
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                                                                                                                                                                                             SEC ID NO 280
LENGTH: 751
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APPLICANT: Gayle III, Richard B.
APPLICANT: Gayle III, Richard B.
APPLICANT: Frice, Virginia L.
APPLICANT: Gimpel, Stewen D.
ITILE OF INVENTION: Inhibitors of Platelet Activation and Recruitment FILE REFERENCE: 2819-05.
CURRENT APPLICATION NUMBER: US/09/835,147
CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: US 60/104,585
PRIOR PILING DATE: 1998-10-16
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1998-11-06
PRIOR FILING DATE: 1999-08-13
PRIOR PILING DATE: 1999-08-13
PRIOR FILING DATE: 1999-08-13
NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                                    ) OTHER INFORMATION: Description of Artificial Sequence: Fusion ; OTHER INFORMATION: construct of human CD39 US-09-835-147-8
                                                                                                                                                                                                                                                           DB 10; Length 478;
0.57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            37.3%; Score 57; DB 10; Length 487; 100.0%; Pred. No. 0.58; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Al-Garawi, Amal
APPLICANT: Miller, Charles
APPLICANT: Tomen, Jean-Francois
APPLICANT: Comen, Raymond P.
TITLE OF INVENTION: Identification of Polynucleotides
                                                                                                                                                                                                                                                         37.3%; Score 57; DB 100.0%; Pred. No. 0.5tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 280, Application US/09881752A Patent No. US20020115078A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 26, Application US/09835147 Patent No. US20020002277A1 GENERAL INFORMATION:
                                                                                                      TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
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APPLICANT: Al-Garawi, Amal
APPLICANT: Miller, Charles
PRIOR FILING DATE: 1999-10-13
                    NUMBER OF SEQ ID NOS: 31 SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 37.3
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                1 APTSSSTKKTQL 12
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                                                                                    LENGTH: 478
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LENGTH: 487
                                                              SEQ ID NO 8
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Encoding No. US20020115078Alel Helicobacter Polypeptides in
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Pred. No. 9.5;
                                                                                                                                                                                                                                                                                                                                                                                                      DB 10; Length 751;
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APPLICANT: Trawick, John D.
APPLICANT: Carr, Grant J.
APPLICANT: Yamamoto, Robert T.
APPLICANT: X. H. Howard
TITLE OF INVENTION: Identification of Essential Genes in
TITLE OF INVENTION: Prokaryotes
FILE REFERENCE: ELITRA.011A
CURRENT APPLICATION NUMBER: US/09/815,242
CURRENT FILING DATE: 2001-03-21
TITLE OF INVENTION: Encoding No. US200201150
TITLE OF INVENTION: Genome
FILE REPERENCE: 06132/041002
CURRENT APPLICATION NUMBER: US/09/881,752A
CURRENT FILING DATE: 2001-06-15
PRIOR PAPLICATION NUMBER: US 08/833,457
PRIOR FILING DATE: 1997-04-01
NUMBER OF SEO ID NOS: 370
SOFTWARE: FASTERO for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                         5; Mismatches
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PRIOR FILING DATE: 2000-03-21
PRIOR FILING DATE: 2000-03-21
PRIOR PELLING DATE: 2000-05-23
PRIOR PELLING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/242,578
PRIOR FILING DATE: 2000-11-27
PRIOR FILING DATE: 2000-11-27
PRIOR FILING DATE: 2000-12-22
PRIOR FILING DATE: 2000-12-22
PRIOR FILING DATE: 2001-22
PRIOR FILING DATE: 2001-22
PRIOR FILING DATE: 2001-22
PRIOR FILING DATE: 2001-22
PRIOR FILING DATE: 2001-21-6
PRIOR FILING DATE: 201-02-16
NUMBER OF SEQ ID NOS: 14110
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Pred. No. 8
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                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Helicobacter pylori
US-09-881-752A-280
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Zyskind, Judith W.
Wall, Daniel
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Sequence 1, Application US/10142120
Patent No. US20020164302A1
Patent No. US20020164302A1
REGENERAL INFORMATION:
APPLICANT: Epstein, Alan L.
TITLE OF INVENTION: VASOPERMEABILITY ENHANCING PEPTIDE FRAGMENT OF HUMAN INTERLEUKIN-FILE REFERENCE: 1920-325D2-09801297
CURRENT PAPLICATION NUMBER: US/10/142,120
CURRENT FILING DATE: 1999-11-18
PRIOR APPLICATION NUMBER: 09/443,061
PRIOR APPLICATION NUMBER: 09/806,121
PRIOR FILING DATE: 1996-12-23
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PATENTIN VERSION 3.1
SEQ ID NO 1
LENGTH: 37
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 50; DB 9; Length 37; Pred. No. 0.3;
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US-09-796-149-5
Sequence 5, Application US/09796149
Patent No. US2002003507941
GENERAL INFORMATION:
APPLICANT: Univ. of Southern California
TITLE OF INVENTION: Mutated cyclin G1 protein
FILE REFERENCE: 4-31342A/USC
CURRENT APPLICANTION NUMBER: US/09/796,149
CURRENT PILING DATE: 2001-02-28
NUMBER OF SEQ ID NOS: 6
SOFTWARE: Patentin version 3.1
SEQ ID NO 5
LENGTH: 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      32.7%;
90.0%;
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Matches 9; Conservative
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82 TKKQVLRMEHLVLKV 96
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; ORGANISM: Homo sapiens
US-10-142-120-1
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COCANISM: Homo sapiens
US-09-796-149-5
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US-10-142-120-1
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